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# GOLETA SEWER OUTFALL STABILITY TESTS

Scott D. Bailey

October 19, 1992

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## AN ABSTRACT OF THE PROJECT OF

Scott D. Bailey for the degree of Master of Science in Civil Engineering presented on October 19, 1992.

Title: Goleta Sewer Outfall Stability Tests

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Charles K. Sollitt

Large scale laboratory tests were conducted to determine the stability of armor rock covering an existing sewer outfall for the city of Goleta, California. The testing consisted of two phases: phase one modeled the existing condition of the outfall and phase two modeled the outfall with proposed armor rock to provide additional stability. Wave tests were conducted in prototype water depths ranging from 15 to 45 feet at scale ratios ranging from 1:4.52 to 1:15.5. Prototype wave conditions included both random and monochromatic waves with periods ranging from 14 to 22 seconds and wave heights ranging from 4 to 25 feet. Wave data were taken utilizing seven resistive wave gages, two acoustic current meters and a sonic wave profiler. In addition, the test runs were video recorded from two underwater and one above water locations. Test conditions for each test run are presented in tabular form.

Wave conditions were analyzed by employing Fourier analysis to determine sine and cosine amplitudes of each frequency component, which were interpreted to separate the incident and reflected waves. Results are summarized in tabular form at both model and prototype scale. Significant hydrodynamic properties are

presented graphically in non-dimensional form and compared to theoretical or empirical models. Similar trends were observed in both monochromatic and random wave tests. Breaking wave heights were found to be within 75% of the theoretical maximum wave height. Reflection coefficients were found to decrease and transmission coefficients increase with increases in relative water depth. Non-dimensional velocities were found to decrease with increasing wave steepness and increasing relative depth. Similar hydrodynamic trends were noted in the existing and proposed armor configurations. Selective removal of fines from the rock armor occurred during the wave tests. The proposed armor experienced less removal of fines than the existing armor.

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**Goleta Sewer Outfall Stability Tests**

**by**

**Scott D. Bailey  
Lieutenant, Civil Engineer Corps, U.S. Navy**

**A PROJECT**

**submitted to**

**Oregon State University**

**in partial fulfillment of  
the requirements for the  
degree of**

**Master of Science**

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**Commencement June 1993**

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This project work was performed under contract with Brown & Caldwell Consultants of Irvine California. Preliminary analysis of prototype conditions, determination of testing parameters, and ultimate evaluation of armor stability was performed by Dr. Fredric Raichlen of the California Institute of Technology.

Dr. Charles Sollitt, director of the O.H. Hinsdale Wave Research Laboratory, along with the senior research staff were instrumental in carrying out the wave experiments and subsequent analysis. In addition, Dr. Sollitt and Cheryl Zedwick of Oregon State University's Ocean Engineering Program provided invaluable assistance in the preparation of this report.

The assistance and cooperation of all of those involved in this project was greatly appreciated.

## TABLE OF CONTENTS

1.0	INTRODUCTION .....	1
1.1	Background .....	1
1.2	Stability Analysis .....	3
1.3	Scope .....	7
2.0	MODEL DESCRIPTION .....	10
2.1	Facilities .....	10
2.2	Scaling .....	13
2.3	Bottom Profile .....	16
2.4	Outfall Pipe .....	16
2.5	Geologic Materials .....	17
3.0	EXPERIMENTAL PROCEDURES .....	27
3.1	Overview .....	27
3.2	Instrumentation .....	27
3.3	Wave conditions .....	32
3.4	Summary of Test Runs .....	34
4.0	RESULTS .....	36
4.1	Overview .....	36
4.2	Analysis Methods .....	36
4.3	Tabular Summary of Wave Conditions .....	38
4.4	Graphical Summary of Wave Conditions .....	50
4.5	Selective Removal of Rock .....	63
5.0	SUMMARY AND CONCLUSIONS .....	69
5.1	Test summary .....	69
5.2	Results summary .....	70
	REFERENCES .....	71
	APPENDIX .....	72

## LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1.1 The Southern California coast adjacent to the Santa Barbara Channel . .	2
1.2 Cross-section of suggested wave protection on outfall . . . . .	4
1.3 Stability number for rubble foundation and toe protection . . . . .	5
1.4 Cross-section of model for existing condition . . . . .	8
1.5 Cross-section of model for proposed armoring. . . . .	8
2.1 O.H. Hinsdale laboratory 2-dimensional wave channel. . . . .	11
2.2 Plan view and profile of the 2-dimensional wave channel . . . . .	12
2.3 Stability correction for scale effects as a function of Reynolds number . . . . .	14
2.4 Profile of the wave channel configured for the test . . . . .	18
2.5 Diagram of the pipe section orientation . . . . .	18
2.6 Installed pipe section without armor . . . . .	19
2.7 Model and scaled prototype rock wieght distributions . . . . . for the existing condition	20
2.8 Rock sieving and mixing process . . . . .	22
2.9 Model weight distributions of Class A armor rock . . . . . compared to target minimum and maximum values	23
2.10 Model size distributions of Class B armor rock . . . . . compared to target minimum and maximum values	24
2.11 Placement of model rock through 18-inch water column . . . . .	25
2.12 Model outfall section configured to the existing condition . . . . .	26
2.13 Model outfall section configured to the proposed armoring . . . . .	26
3.1 Acoustic current meter and video camera on East wall . . . . .	28
3.2 Diagram of instrumentation in the wave channel . . . . .	31

# LIST OF FIGURES, cont'd

<u>Figure</u>	<u>Page</u>
3.3 Monochromatic waves breaking on model of existing condition . . . . .	35
3.4 Random waves breaking on model with proposed armoring . . . . .	35
4.1 Wave steepness versus dimensionless depth for existing condition . . .	55
4.2 Wave steepness versus dimensionless depth for proposed armoring . .	56
4.3 Reflection coefficient versus dimensionless depth for existing condition	57
4.4 Reflection coefficient versus dimensionless depth for . . . . . proposed armoring	58
4.5 Transmission coefficient versus dimensionless depth for . . . . . existing condition	60
4.6 Transmission coefficient versus dimensionless depth for . . . . . proposed armoring	61
4.7 Dimensionless horizontal velocity versus dimensionless depth . . . . . for existing condition	64
4.8 Dimensionless horizontal velocity versus dimensionless depth for . . . . . proposed armoring	65
4.9 Existing condition post-test rock distributions . . . . .	67
4.10 Proposed armoring post-test rock distributions . . . . .	68



## LIST OF TABLES

### Table

1.1	Prototype size distribution of Class A rock . . . . .	4
1.2	Size distribution of Class B rock . . . . .	4
3.1	Instrument identification and location . . . . .	29
3.2	Wave gauge calibration . . . . .	29
4.1	Data log summary . . . . .	39
4.2	Video tape log . . . . .	43
4.3	Summary of hydrodynamic properties - model scale . . . . .	47
4.4	Summary of hydrodynamic properties - prototype scale . . . . .	51

## LIST OF NOTATION

<u>Symbol</u>	<u>Definition</u>
$A_t$	Cross-sectional area of the model
$F$	Freeboard
$H$	Wave height
$H_B$ or $H_b$	Breaking wave height
$H_{mo}$	Zero-moment wave height
$H_{rms}$	Root mean square wave height
$H_s$	Significant wave height
$L_o$	Deep water wave length
$L_p$	Wave length at the model
$K_r$	Reflection coefficient
$K_t$	Transmission coefficient
$N_s$	Stability number
$S_r$	Specific weight of rock
$SF$	Scale factor
$S(f)$	Energy density spectrum
$T$	Wave Period
$T_p$	Wave period at spectral peak
$U_{mo}$	Zero-moment horizontal velocity
$V$	Velocity
$W$	Weight
$Z$	Vertical height from SWL
$d$	Depth
$d_s$	Water depth at model
$d_1$	Depth to top of rubble structure
$f$	Frequency
$f_p$	Frequency at spectral peak
$g$	Gravitational acceleration
$h_c$	Model crest height
$l$	Length
$m$	Mass or subscript to indicate model
$p$	Subscript to indicate prototype
$t$	Time
$\alpha$	Variable placeholder
$\beta$	Variable placeholder
$\gamma$	Peak enhancement factor
$\Delta V$	Change in velocity
$\Delta Z$	Change in vertical height
$\rho$	Density
$\sigma$	Empirical spectral coefficient

# GOLETA SEWER OUTFALL STABILITY TESTS

## 1.0 INTRODUCTION

### 1.1 Background

This report summarizes wave experiments conducted to evaluate the stability of armor rock covering an existing marine sewer outfall. The subject of this study is the Goleta Sanitary District ocean sewer outfall, located in the city of Goleta, California, approximately nine miles west of Santa Barbara. Figure 1.1 indicates the location of Goleta. The outfall extends 5800 feet from shore towards the Santa Barbara Channel. It is constructed of 39 inch diameter welded steel pipeline and has a tar and concrete coating which produces an overall outside diameter of 44 inches. Dispersion of effluent is through a 280 foot diffuser section into 85 feet of water, relative to mean lower low water (MLLW). The primary outfall section of concern extends approximately 3600 feet in water depths ranging from 13 to 47 feet with an average bottom slope of 0.00945.

The Goleta outfall was constructed in 1965. Existing armoring on the outfall consists of one layer of Class D armor rock, with a median weight of approximately 0.5 lb, which was placed during construction and one layer of Class C armor rock, with a median weight of approximately 5 lb, which was placed over the original armoring in 1981. The specific gravity of the existing armor rock is 2.60. The total existing armoring reaches an elevation of 8 to 12 inches

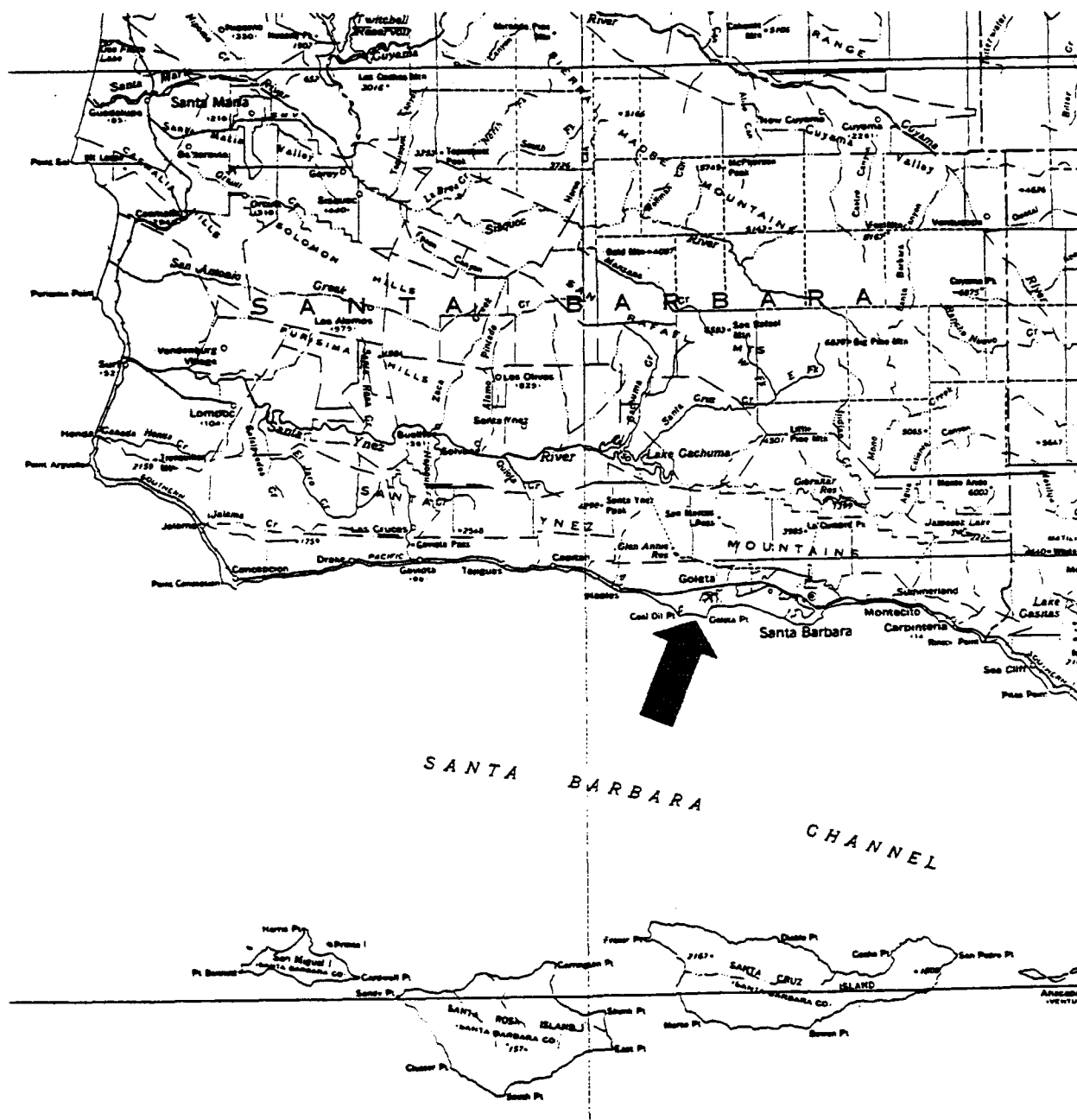


Figure 1.1 Southern California coast adjacent to the Santa Barbara Channel

below the top of the outfall and extends downward on both sides at a slope of 1:3. However, unsupported lengths of pipe have been observed by inspection divers.

Wave forecasting by Brown and Caldwell has indicated that breaking waves will probably occur on the outfall in depths shallower than 47 feet, with incident wave rays approaching at a mean angle of 22.5 degrees from the longitudinal axis of the outfall. The proposed method of stabilization of the outfall is to place layers of Class A and B armor rock over the existing armor. Figure 1.2 is a cross-section of the existing outfall and proposed armoring. The estimated specific gravity of the proposed armor rock is 2.69. Weight distributions are as indicated in Tables 1.1 and 1.2.

## 1.2 Stability Analysis

A first order design for the armor rock on the Goleta outfall may be achieved utilizing the semi-empirical methods presented in the U. S. Army Corps of Engineers Shore Protection Manual (1984). The submerged berm formed over an armored outfall may be approximated as a rubble foundation for a caisson structure if the standing wave height effect is included. Refer to Figure 1.3 which is reproduced from Figure 7-120 in the Shore Protection Manual. The caisson structure will cause a perfect reflection over the rubble foundation, effectively doubling the incident wave height and the associated destabilizing wave induced velocities and pressures. Thus, a design wave height of  $H$  for rubble foundation without a caisson would be equivalent to a design wave height of  $H/2$  for a rubble foundation with a caisson structure.

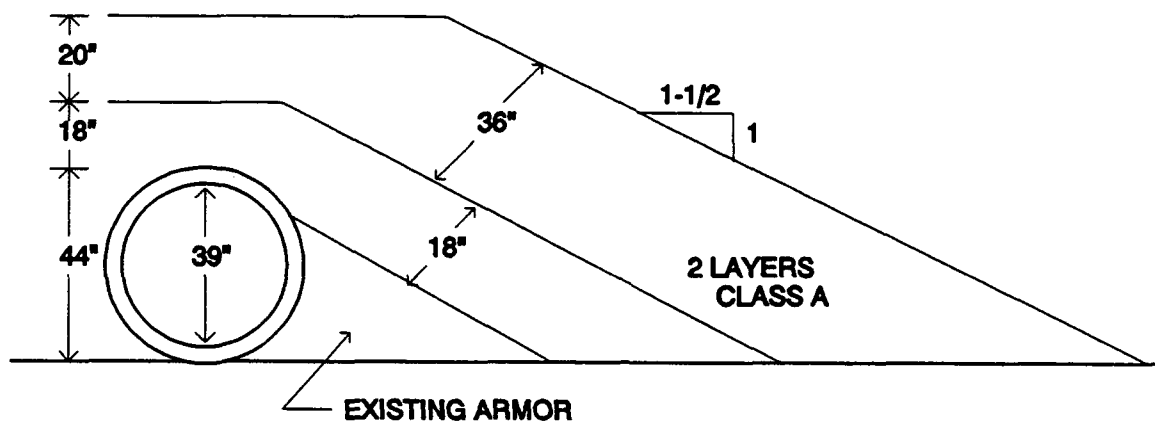


Figure 1.2 Cross-section of suggested wave protection for Class A and B rock

% by weight less than	Weight (pounds)	Size (ft)
100	460	1.6
80-98	370	1.5
65-90	300	1.4
35-75	230	1.28
5-20	150	1.1
0-20	75	0.9

Table 1.1 Prototype size distribution  
of Class A rock

% less than by weight	D (inches)
100	3.5
85-98	2.5
70-85	1.75
40-70	1.0
0-20	0.75

Table 1.2 Size distribution  
of Class B rock

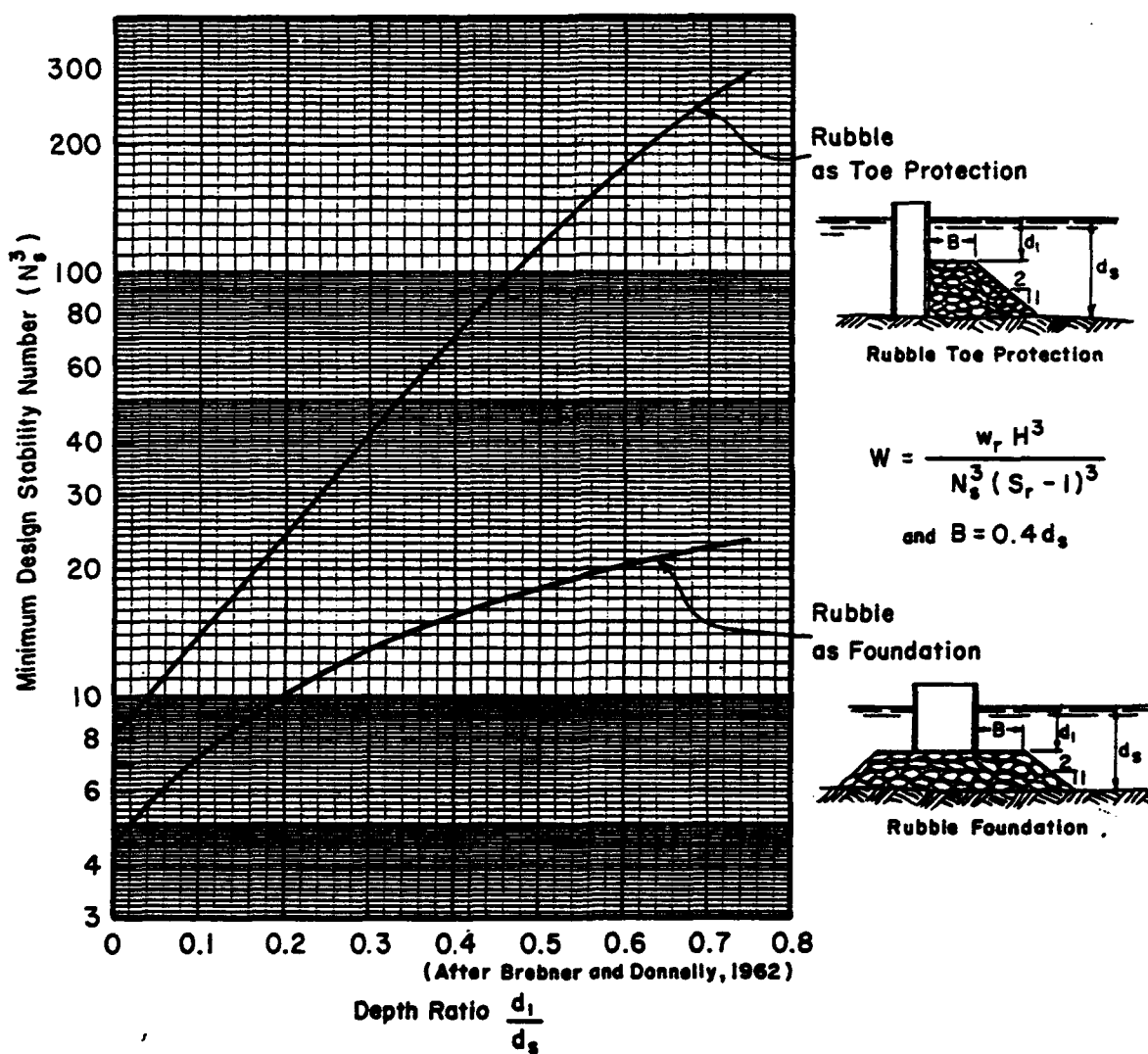


Figure 1.3 Stability Number,  $N_s$ , for rubble foundation and toe protection

Consider a breaking design wave in a water depth of 15 feet at the outfall.

This will yield a shallow water breaking wave height of approximately

$$H_b = 0.8d_s = 12 \text{ ft}$$

The equivalent loading condition for a rubble structure with a caisson would be produced by a wave height of 6 feet, doubling to 12 feet by a perfect reflection off the caisson.

The height of the rubble structure is 6.7 feet, as shown in Figure 1.2.

Thus, the depth to the top of the rubble foundation is

$$d_1 = 15. - 6.7 = 8.3 \text{ ft}$$

and

$$\frac{d_1}{d_s} = \frac{8.3}{15} = 0.55$$

This provides a stability number from Figure 1.3 of approximately

$$N_s^3 \approx 20$$

For a specific weight of

$$S_r = 2.69$$

and a unit weight of rock

$$W_r = S_r \gamma_w = 2.69 (62.4) = 168 \text{ lb/ft}^3$$

the stable rock weight is



$$W = \frac{w_r H^3}{N_r^3 (S_r - 1)^3} = \frac{168(6)^3}{20 (2.69 - 1)^3} = 376 \text{ lbs}$$

This relatively crude calculation verifies the 80-98% class interval rock size for the Class A design rock in Table 1.1.

### 1.3 Scope

This report describes a model study of the stability of existing and proposed armor rock on the Goleta Sanitary District ocean sewer outfall. Large scale model testing was conducted at the Oregon State University O.H. Hinsdale Wave Research Laboratory in Corvallis Oregon. The project was performed under contract with Brown and Caldwell Consultants of Irvine California; the model construction and testing took place between February 10, 1992 and February 22, 1992. A weighted PVC pipe was constructed and armored initially to model the existing condition of the prototype outfall, shown in Figure 1.4. It was tested in prototype depths of 15, 30, and 45 feet and subjected to breaking waves at prototype periods of 14, 16, 19, 22 seconds. The model was also subjected to random waves modeled as a JONSWAP spectrum. Next, the structure was configured to model the proposed Class A and B armoring, as in Figure 1.5, and subjected to a similar array of wave conditions. It was understood that model testing of the proposed Class A and B armoring was dependent upon failure of the first model.

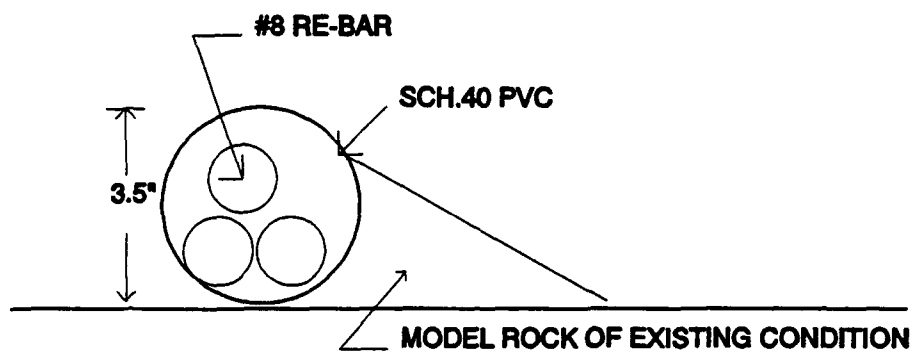


Figure 1.4 Cross-section of model for existing condition

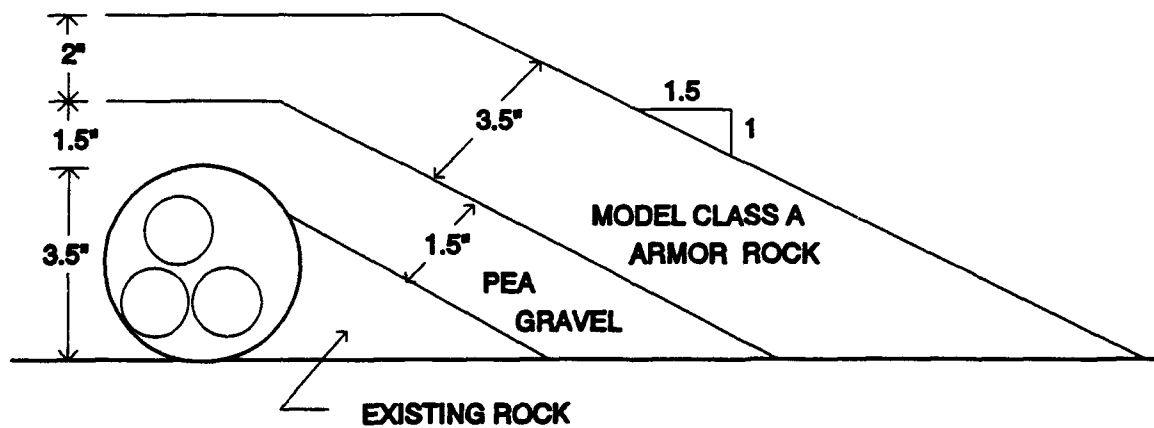


Figure 1.5 Cross-section of model for proposed armoring

Wave and current measurements were recorded to quantify the resulting wave field in the area of the model. Video observations were recorded for each test run from one camera above water and two cameras below water to monitor stability of the armor rock. Wave data are analyzed using Fourier analysis combined with the Goda method (Goda, 1985) for incident and reflected wave separation. A summary of wave and current conditions is presented in tabular form at both model and prototype scale. Dimensionless graphical results are presented and discussed.

## 2.0 MODEL DESCRIPTION

### 2.1 Facilities

The model tests were conducted at the O. H. Hinsdale Wave Research Laboratory, Oregon State University. The major features of the Laboratory include:

- 1) a two dimensional wave channel, 342 feet long, 12 feet wide and 15 feet deep with a hydraulically driven, hinged flap wave board, used for wave induced force and response measurements,
- 2) a three dimensional wave basin, 87 feet long, 60 feet wide and 5 feet deep with a 30 segment directional wave generator, electrically powered through ball screw drives, used for wave diffraction studies,
- 3) a circular wave basin, 50 feet in diameter and 5 feet deep with a 16 segment spiral wave generator, electrically powered through ball screw drives, used for coastal circulation and sediment transport studies,
- 4) a VAX server 3400 and two VAX stations 3100 with optical communication links for wave generation control and 64 channels of digital data acquisition,
- 5) a 50,000 ft<sup>2</sup> environmental enclosure for the facilities including an 1,875 ft<sup>2</sup> elevated control room.

This study utilized the large two dimensional wave channel to maximize the scale of the model. The wave board is hinged at the bottom of the channel in an overall depth of 18 feet. The wave board is servo-hydraulically driven with direct, digital controls. A 150 horsepower electrical motor powers a 3000 psi, 76 gpm oil hydraulic pump, which is the prime mover for an eight inch diameter actuator. The actuator ram has a stroke of  $\pm 30$  inches and is located 10 feet above the channel floor. The back side of the wave generator is dewatered, reducing the power

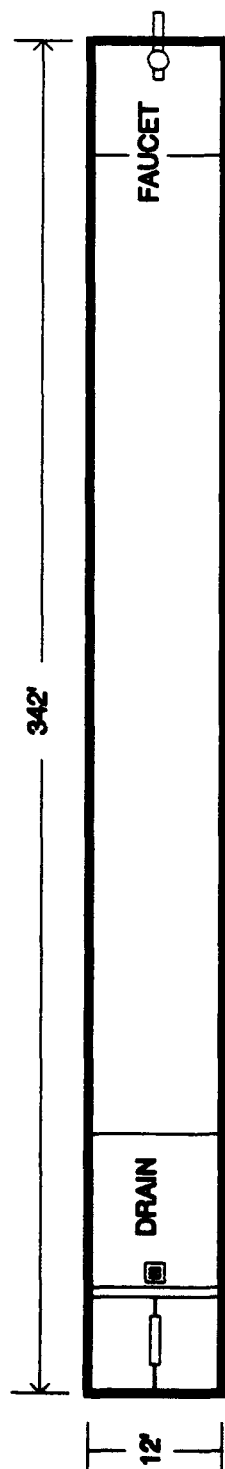
consumption by one-half. The hydrostatic head is overcome by applying nitrogen gas pressure to the back side of the actuator, creating static equilibrium between the still water pressure and a gas spring. The sides of the waveboard are effectively sealed to the sides of the wave channel via a plastic wiping seal, sliding on stainless steel cladding which is epoxied to the concrete channel walls. A photograph and diagram of the wave channel appear in Figures 2.1 and 2.2.

Two feedback loops are used to control the waveboard. The primary loop is a displacement control which minimizes the error between the measured waveboard position and the computed position, the latter based upon a linear wave theory solution for the waveboard transfer function. A secondary loop measures the wave profile at the center of the waveboard and corrects the board velocity to yield the desired wave profile. This loop provides the capacity for active reflected wave cancellation.



Figure 2.1 O.H. Hinsdale Laboratory 2-dimensional wave channel

# PLAN VIEW



# PROFILE

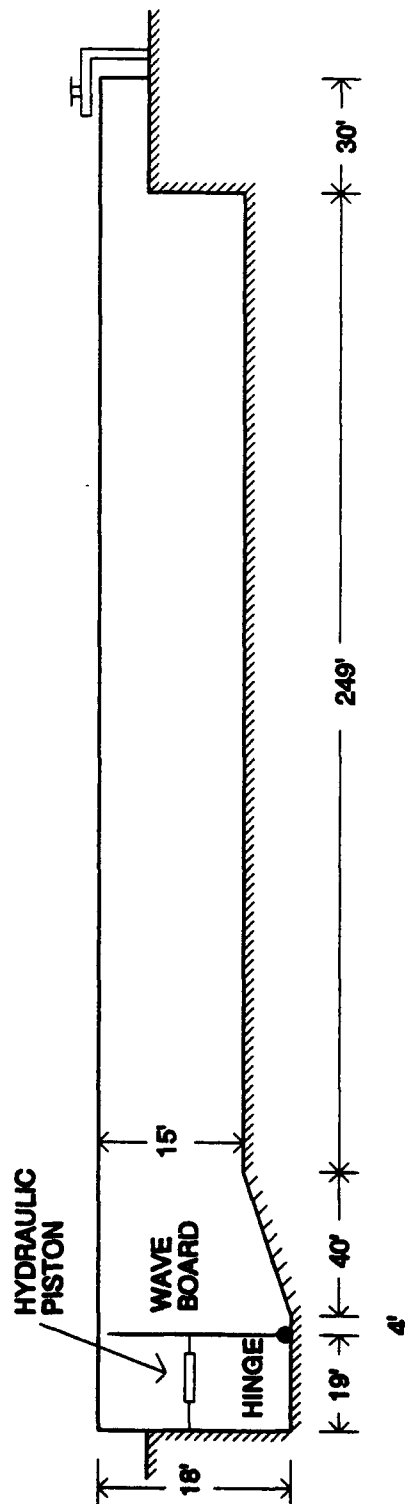


Figure 2.2 Plan view and profile of the 2-dimensional wave channel

Both monochromatic and random waves are produced with this wave generator, over a useful period range of 1 to 10 seconds. Breaking waves up to 5.0 feet high are generated in water depths of 11.5 feet, for wave periods of 4.0 seconds or less. Larger waves are limited in height by the stroke of the wave generator, however, long wave breaking can be achieved by shoaling the waves with a movable false bottom.

## 2.2 Scaling

The extreme design wave condition for this test series is a breaking wave at water depths of 45, 30 and 15 feet. Given the desired depth and wave conditions and the physical constraints of the wavemaker, it was determined that, with shoaling, a maximum scale of 1:10 was possible for producing a breaking wave at a prototype depth of 45 feet. The size of the channel allows for large scale model testing with a minimum distortion in viscous characteristics of the flow field relative to the prototype condition. As long as the armor unit Reynolds number of the model exceeds  $2 \times 10^5$ , the error in viscous effects of the fluid on the model versus the prototype is less than 3 percent, as indicated in Figure 2.3 (Sollitt, DeBok, 1976). This corresponds to a one pound armor unit and a four foot design wave height. Smaller armor weights and smaller wave heights yield smaller Reynolds numbers with a corresponding reduction in the apparent model stability. This provides a conservative estimate to the design condition by under predicting the no damage wave height.

Compressibility of the liquid is of no consequence in this application and surface tension may also be ignored because of the scale of the waves. Reynolds similarity is achieved by the large scale of the model. Because gravity is the restoring

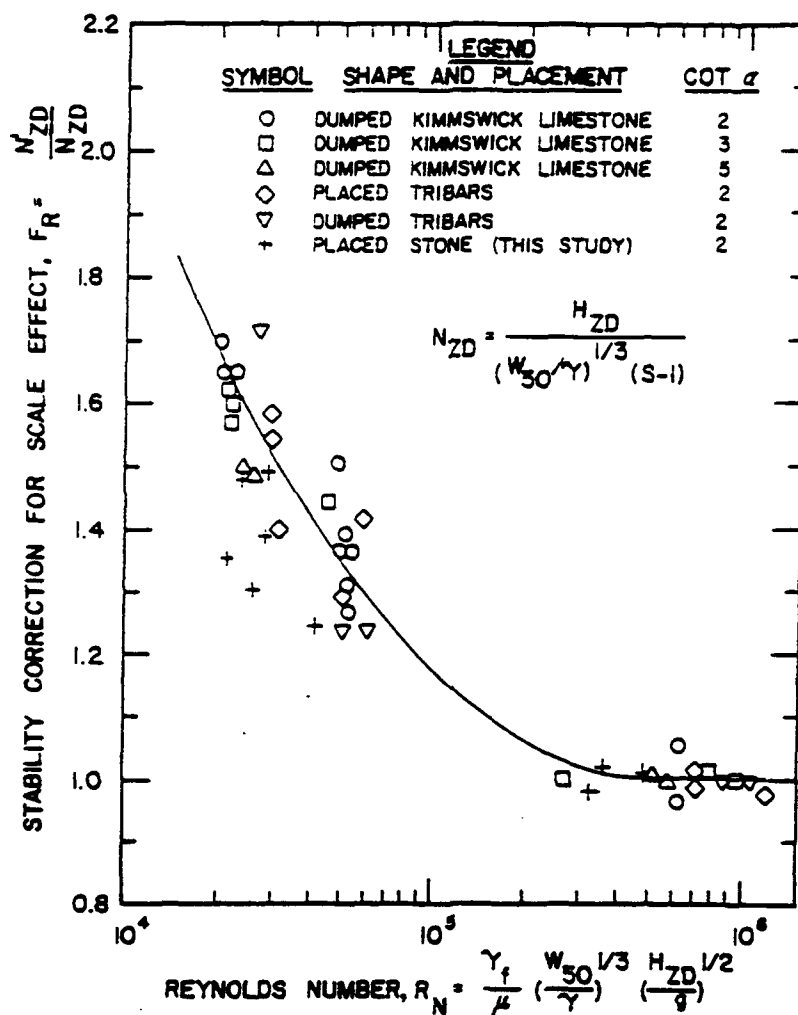


Figure 2.3 Stability correction for scale effects as a function of Reynolds Number



force, dynamic similitude may be characterized by maintaining equality of the Froude number during scaling. The Froude number maintains the ratio of inertial forces ( $mV\Delta V/\Delta Z$ ) to gravitational forces ( $mg$ ) or:

$$F=(mV\Delta V/\Delta Z)/mg$$

where,  $m$  = mass of the fluid parcel  
 $g$  = gravitational acceleration  
 $V$  = characteristic velocity  
 $\Delta V/\Delta Z$  = velocity gradient, scaled as  $V/l$

thus,

$$F=(V^2/l)/g=V^2/gl$$

and,

$$(V^2/gl)_{prototype}=(V^2/gl)_{model}$$

or,

$$(V/\sqrt{gl})_{prototype}=(V/\sqrt{gl})_{model}$$

Given that the Froude number remains constant and a length scale factor (SF) is characterized by the equation:

$$SF=l_m/l_p$$

then the following scale relationships apply:

$$l_m = (SF) l_p \quad \text{Length}$$

$$t_m = (\sqrt{SF}) t_p \quad \text{Time}$$

$$V_m = (\sqrt{SF}) V_p \quad \text{Velocity}$$

$$W_m = (SF)^3 (\rho_m / \rho_p) W_p \quad \text{Weight}$$

### 2.3 Bottom Profile

Figure 2.4 is a profile of the two-dimensional wave channel, as configured for the test. Since the prototype bottom slope over the 3600-foot section of outfall under consideration is less than 1:100, the model test section was placed on a level false bottom surface. The elevated false bottom was required to allow shoaling of the waves from the wavemaker to the model. Shoaling is necessary to provide an array of desired wave characteristics at the model, given the limitations of the wavemaker. Constraints on model wave height include wavemaker stroke and velocity, as well as wave breaking.

Target wave characteristics at the wavemaker are calculated by determining a desired wave at the model and then shoaling it back to the wavemaker on a slope of 1:12 with a differential height of 10.75 feet. The level false bottom section was installed using 12 foot x 12 foot x 8 inch reinforced concrete slab sections bolted into place and caulked between sections. It extended for seven sections or a total of 84 feet at approximately midway in the channel. A beach profile on a slope of 1:12 extended from the level false bottom section to the end of the wave channel, providing low reflection for a wide range of wave periods.

## 2.4 Outfall Pipe

As stated previously, a maximum scale of 1:10 is possible for producing a breaking wave at a prototype depth of 45 feet. However, the existing armor rock profiles indicated a variation in gradation with depth. Since a single structure was used to model existing conditions at each of the three indicated depths, the scaling was adjusted for each depth to more closely represent prototype conditions. A scale of around 1:12 allowed flexibility of scaling in either direction keeping within the maximum scale limitation of 1:10.

A prototype 44-inch O.D. outfall was to be modeled at a scale of around 1:12 which gives a model O.D. of 3.67 inches. In consideration of the commercial availability of materials, a 3-inch schedule 40 PVC pipe with an O.D. of 3.5 inches was chosen for the model. This provided a model to prototype scale of 1:12.57. The model was oriented in the wave channel with its longitudinal axis at an angle of 22.5 degrees from the longitudinal axis of the channel, giving a nominal pipe length of 28.97 feet. Figure 2.5 is a diagram of the pipe section orientation and Figure 2.6 is a photograph of the installed pipe section prior to installation of the armoring. Since this study was concerned primarily with stability of the armor rock and not the pipeline itself, the model pipe was weighted with six 12-foot sections of No. 8 (1-inch) steel reinforcing bar to prevent flotation and lateral movement under wave loading.

## 2.5 Geologic Materials

The existing armoring of the outfall was modeled using crushed river rock with

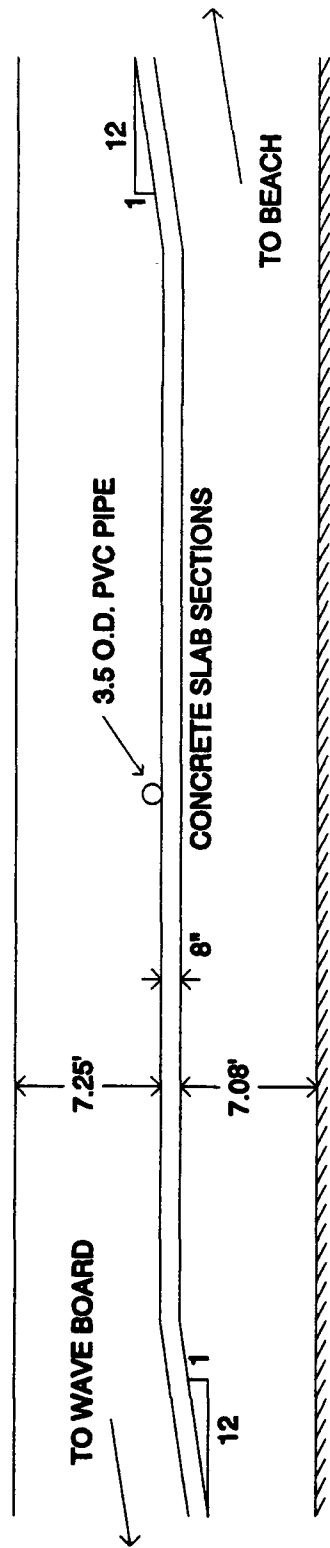


Figure 2.4 Profile of the wave channel configured for the test

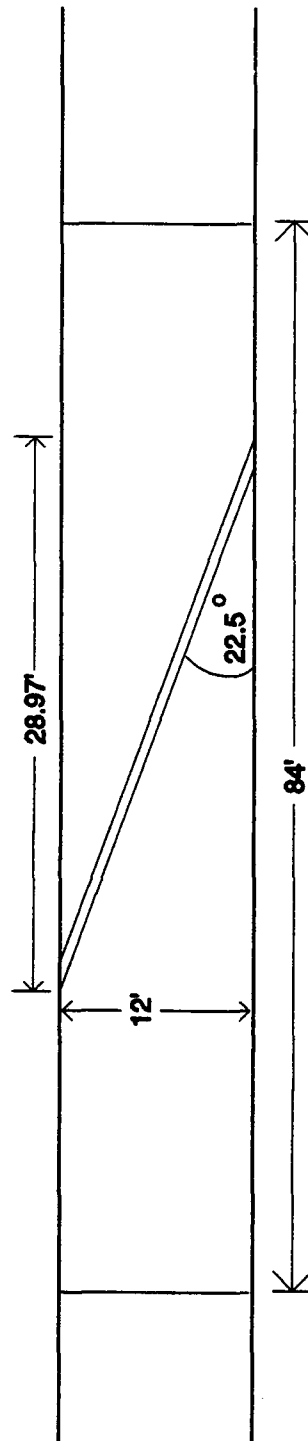


Figure 2.5 Diagram of the pipe section orientation (plan view)



Figure 2.6 Installed pipe section without armor

a specific gravity of 2.70. The rock was mixed to provide a model distribution which represented a scaled prototype distribution. A sample weight distribution of the model armor rock for the existing condition was compared with a prototype sample distribution taken at a depth of 30 feet and scaled at 1:12.57. Figure 2.7 is a plot of the model and scaled prototype weight distributions for the existing condition. As indicated in Figure 2.7, the model rock distribution was found to be a little light and the model scale for this depth was adjusted to 1:13.10, which represented a change of approximately 4.2 percent. The same model was used at a scale of 1:12.00 and

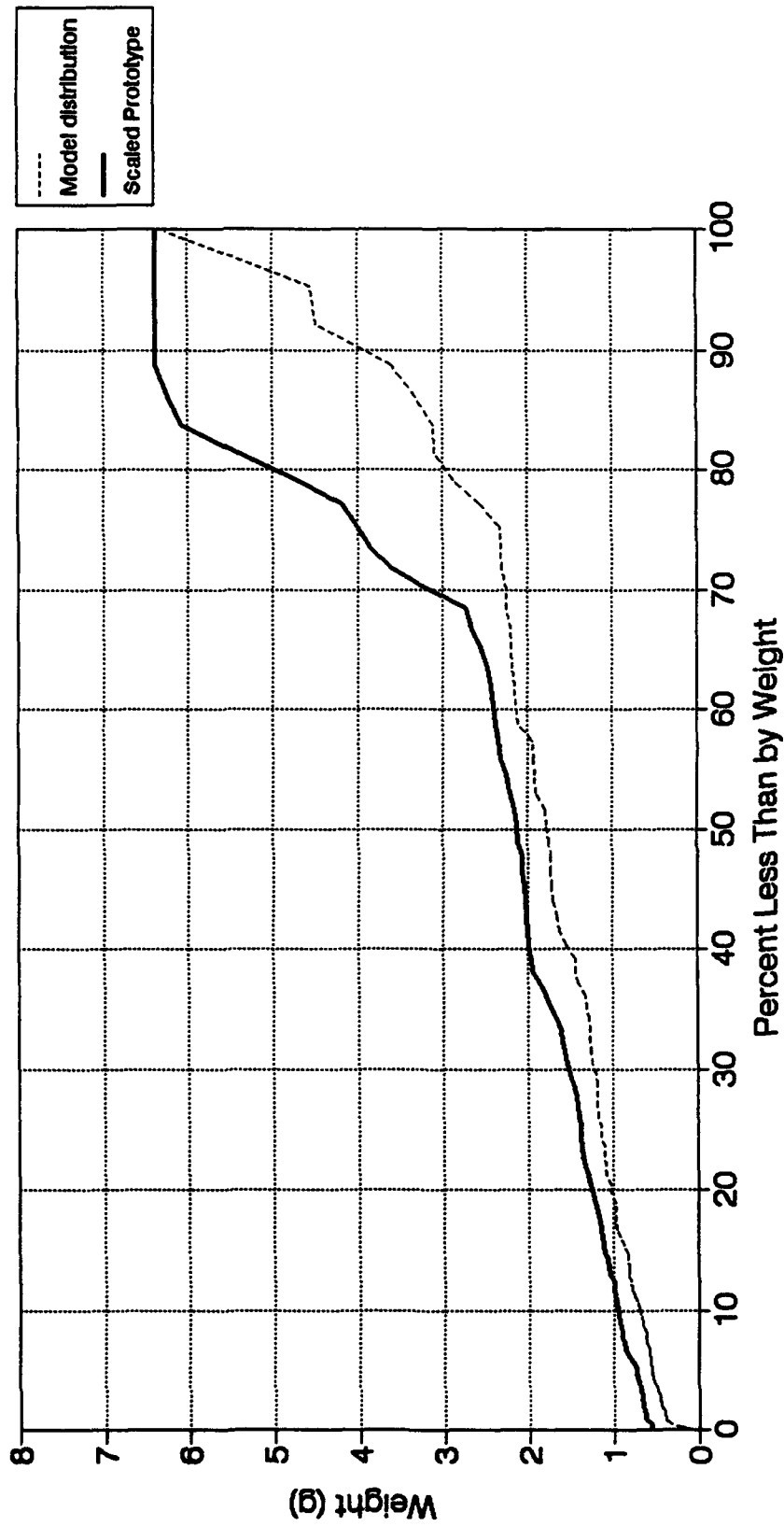


Figure 2.7 Model and scaled prototype rock weight distributions for the existing condition

1:15.50 for the 15-foot and 45-foot depths, respectively, based on variations in prototype rock distributions at those depths. Scaling the wave conditions based on the armor rock scale for each depth produced a -5 to +23 percent error in modeling the pipe. It was considered that this error in pipe size would not significantly affect the stability of the armor rock.

The Class A armoring was modeled using crushed basalt with a specific gravity of 2.77. The Class A rock was separated by sieving with a Gilson Model TM-4 shaker and sieve sizes of 1.5, 1.25, 1.0 and .075 inches. Mixing by weight class intervals, to represent a scaled prototype distribution, was achieved in a tumbling concrete mixer. The process is illustrated in the photograph of Figure 2.8. The weight distribution of the mix was found to be within an acceptable range of variation of the prototype.

Figure 2.9 is a plot of two model weight distributions for the proposed Class A armoring compared to target minimum and maximum limits. The Class B armoring was modeled using pea gravel which was sieved and mixed to approximate the prototype Class B rock. Figure 2.10 is a plot of the model size distribution compared to target limits for the Class B rock. Although the Class B distribution exceeded the maximum suggested limit, it was not considered that this would significantly affect the outcome of the armor stability tests. The proposed Class A and B armor rock was scaled at 12.57 with no variation in the scale with depth.

The required model cross-section of the existing condition was constructed by dropping the model rock through an 18-inch water column onto the pipe section. This



Figure 2.8 Rock sieving and mixing process

procedure is illustrated in Figure 2.11. The model armoring was not compacted or otherwise disturbed in any way after placement except that the toe on both sides of the model was dressed by removing excess rock that fell outside the limits of the profile. No high spots in the armoring were adjusted but low spots were filled in with additional rock, providing an overall armor profile that tended to match or exceed the required armor coverage. Upon completion of construction of the first model, the wave tank was drained for visual inspection prior to testing. Figure 2.12 is a photograph of the model outfall section configured to the existing condition of the prototype.



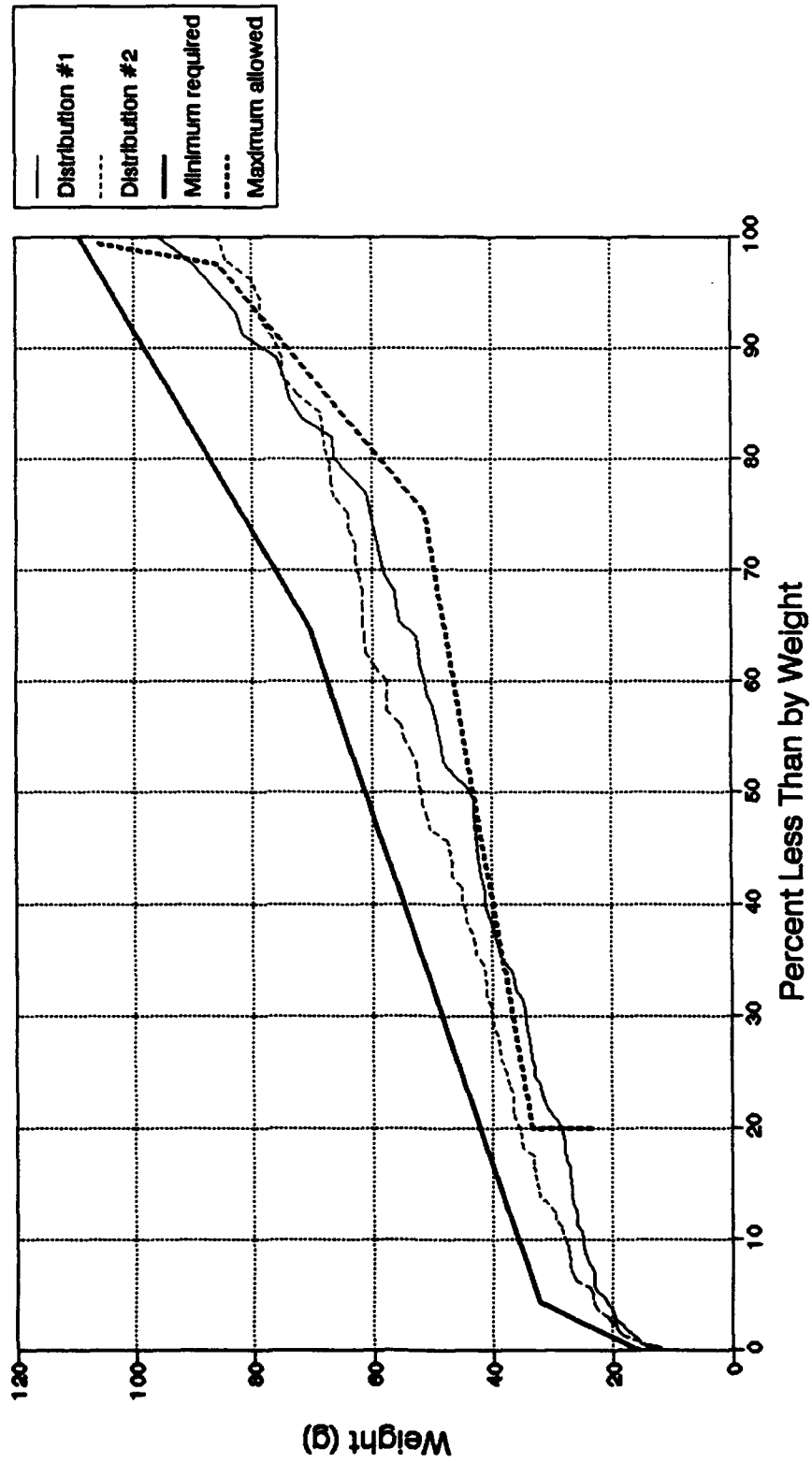


Figure 2.9 Model weight distributions of Class A armor rock compared to target minimum and maximum values

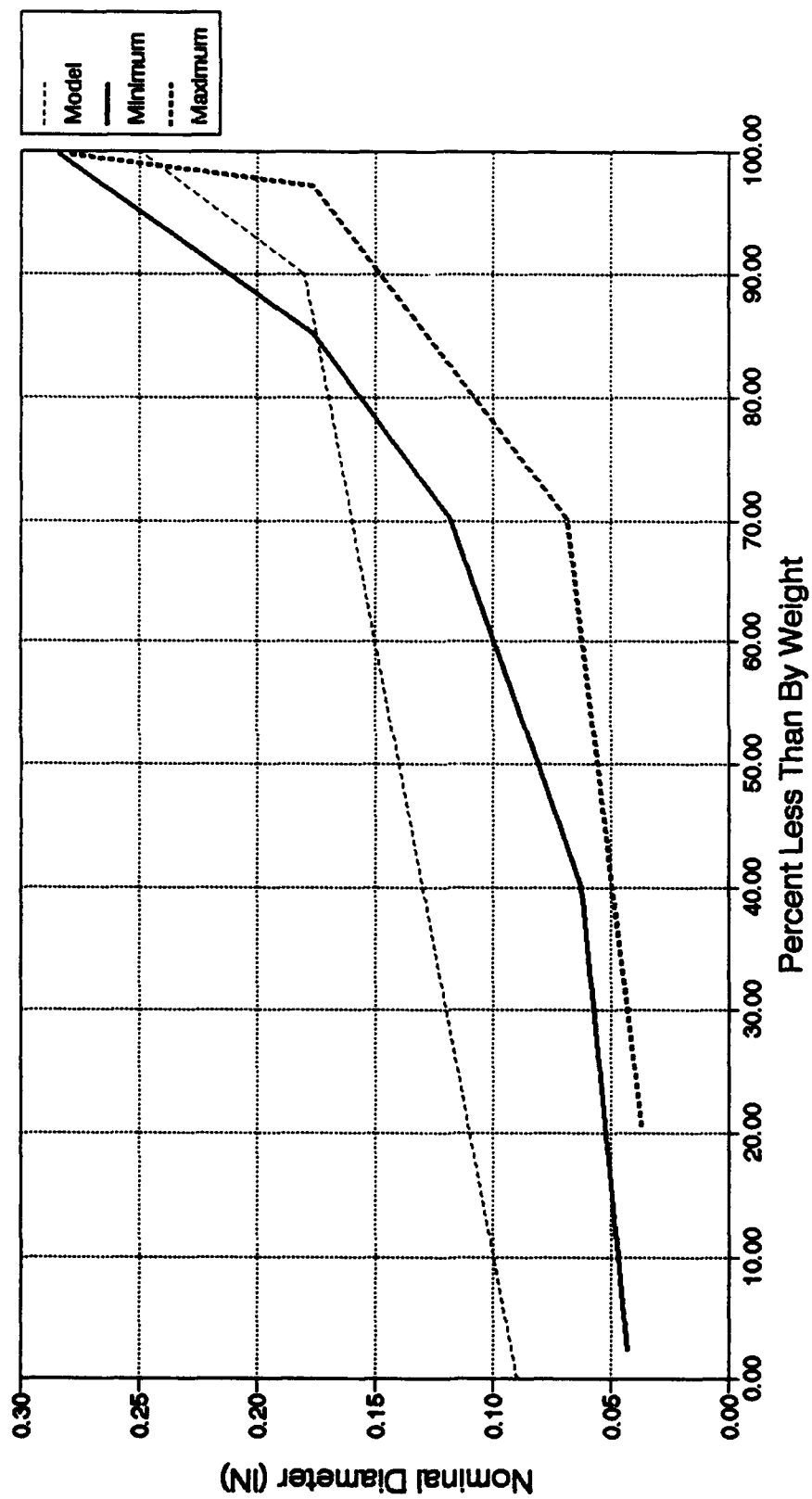


Figure 2.10 Model size distribution of Class B armor rock compared to target minimum and maximum values

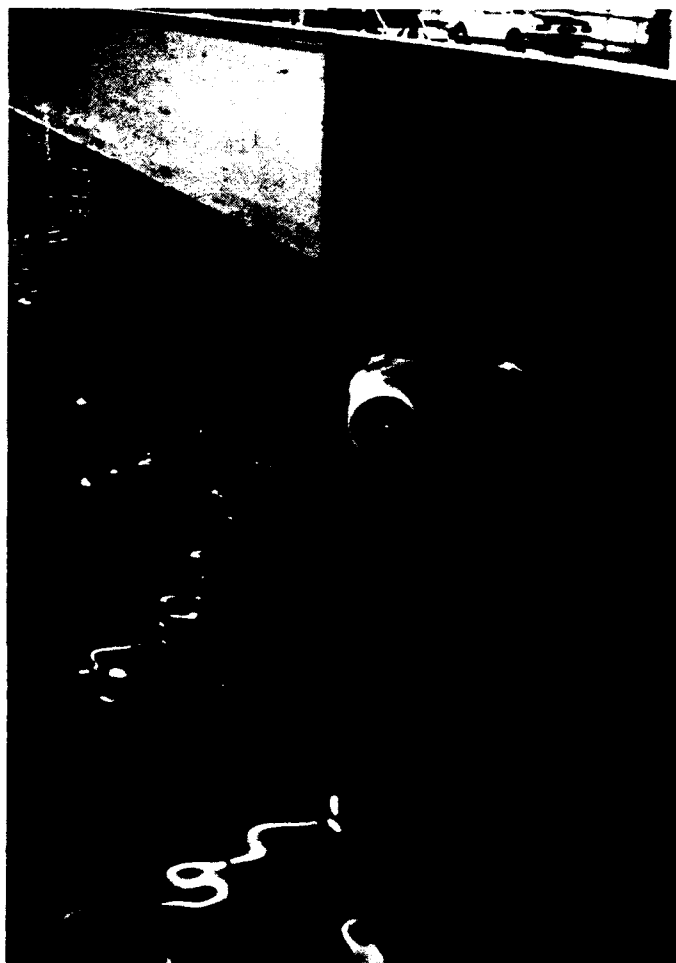


Fig 2.11 Placement of model rock through 18-inch water column

After model testing of the existing condition was complete, the model was reconstructed with the proposed design armoring. The required cross-section of the second model was constructed by dropping first the Class B rock and then the Class A rock through an 18-inch water column onto the pipe section. The wave tank was then drained and a plywood template was used to manually dress the slope to the desired cross-section of Figure 1.2. Figure 2.13 is a photograph of the outfall model section configured to the proposed armoring.



Fig 2.12 Model outfall section configured to the existing condition

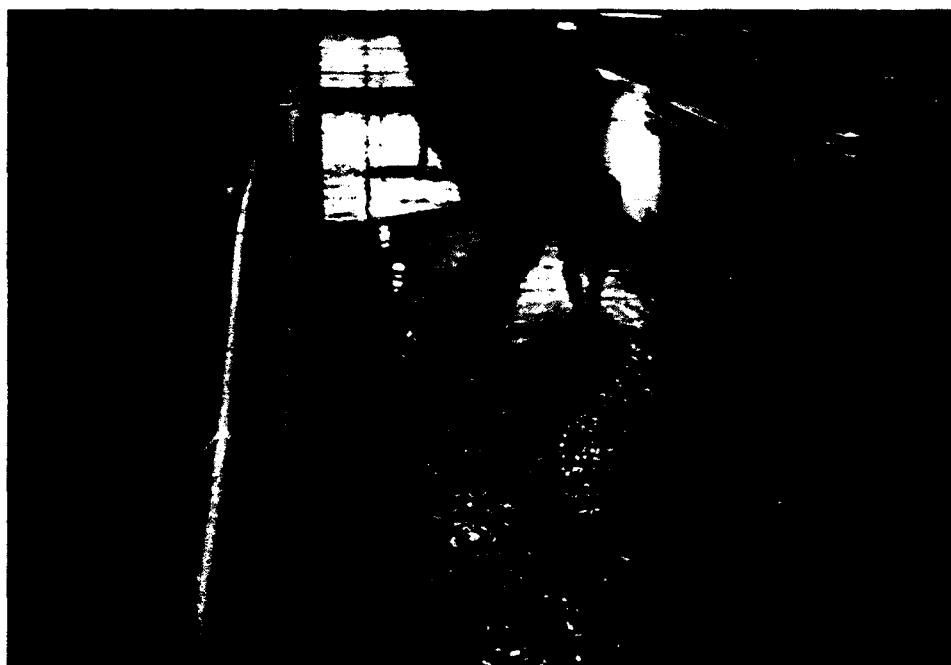


Fig 2.13 Model outfall section configured to the proposed armoring

### 3.0 EXPERIMENTAL PROCEDURES

#### 3.1 Overview

Model testing was conducted over a two week period from February 10, 1992 to February 21, 1992. The testing was divided into two phases. The first phase was designed to model the existing condition of the Goleta outfall and determine its stability under various monochromatic and random wave conditions. The second phase was designed to model the proposed design armoring. Prototype sea conditions used for the tests were prescribed by Brown and Caldwell. Wave and current measurements were taken on the seaward and leeward sides of the model to quantify the actual wave conditions of each test. A binary determination of stability was achieved through visual observation of the model during each test. Video cameras recorded each test from one above water location and two below water locations.

#### 3.2 Instrumentation

Quantitative data recorded during each test included wave profile and current measurements. The wave profile was measured by seven resistive type wave gauges spaced along the east side of the wave channel adjacent to the model and one sonic wave profiler mounted on a beam at the center of the channel on the seaward side of the model. The resistive wave gauges are designed and constructed at the Wave Research Laboratory and are described in a paper by Dibble and Sollitt (1989). Current measurements were taken with two three-

directional, Sensor Data, acoustic current meters mounted along the wall of the channel on either side of the model. A photograph of the instrumentation and underwater video camera is presented in Figure 3.1.



Figure 3.1 Acoustic meter and video camera on east wall

A total of twelve data channels were used to input wave and current information into the laboratory's digital data acquisition system, one for each wave profiler and two (horizontal and vertical) for each current meter. Data was sampled at a rate of 16 data points per second. Table 3.1 identifies each instrument, its corresponding data channel and its location in the wave channel relative to the center of the model. A six channel pen plotter was also used to visually monitor wave and current measurements during tests.

Table 3.1 Instrument Identification and Location

Ch#	Instrument	Measurements	Mounted/Side
Ch# 1	Resistive Wave Gage	Wave Profile	-23 ft./East
Ch# 2	Resistive Wave Gage	Wave Profile	-16 ft./East
Ch# 3	Resistive Wave Gage	Wave Profile	-13.5 ft./East
Ch# 4	Resistive Wave Gage	Wave Profile	-1.0 ft./East
Ch# 5	Resistive Wave Gage	Wave Profile	+25 ft./East
Ch# 6	Resistive Wave Gage	Wave Profile	+32 ft./East
Ch# 7	Resistive Wave Gage	Wave Profile	+35 ft./East
Ch# 8	Acoustic Current Meter	Ver. Vel.	-59 in./West
Ch# 9	Acoustic Current Meter	Hor. Vel.	-59 in./West
Ch# 10	Acoustic Current Meter	Ver. Vel.	+59 in./East
Ch# 11	Acoustic Current Meter	Hor. Vel.	+59 in./East
Ch# 12	Sonic Profiler	Wave Profile	-60 ft./Center

(Minus direction is toward waveboard)

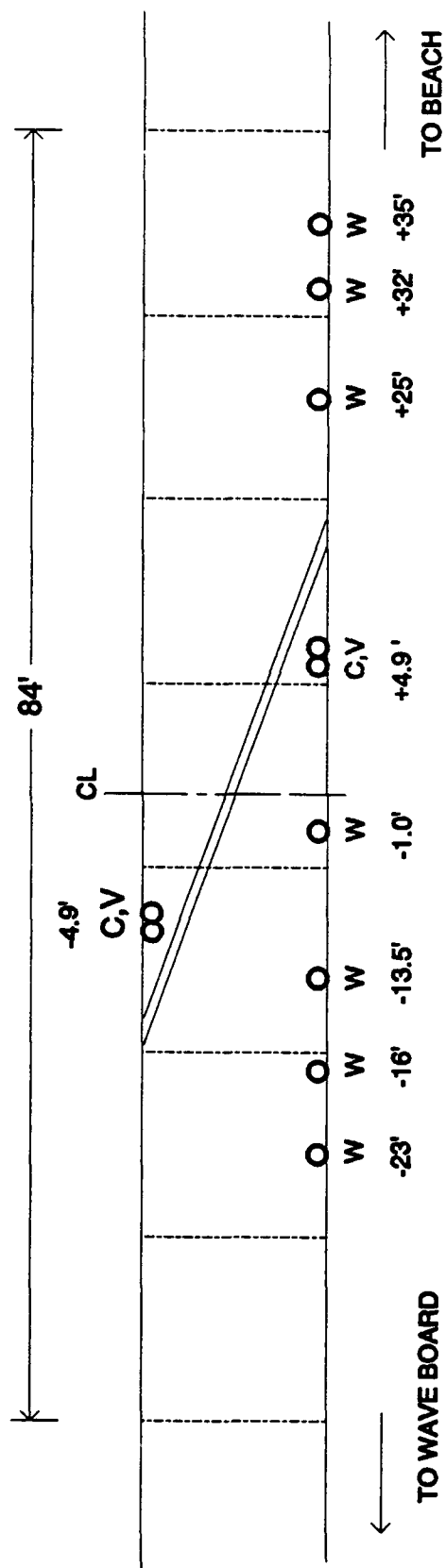
Table 3.2 Wave Gage Calibration

Calibration Date:	Calibration Constant: feet per volts				St. Dv.
	Feb. 10	Feb. 13	Feb. 24	Average	
Gage No.					
1	.4446	.4508	.4753	.4569	.0162
2	.4452	.4377	.4602	.4477	.0115
3	.4439	.4393	.4606	.4479	.0112
4	.4376	.4320	.4512	.4403	.0099
5	.4457	.4265	.4483	.4402	.0119
6	.4669	.4462	.4729	.4620	.0140
7	.4496	.4306	.4554	.4452	.0130
Avg.	.4476	.4376	.4606	.4486	.0115
St.Dv.	.0092	.0087	.0103	.0082	

In addition to wave and current records, each test run was video taped from three separate locations simultaneously. Two video cameras were mounted below the waterline; one on the seaward side of the model which utilized a wide angle lens and the other on the lee side of the model which utilized a telephoto lens. The third video camera was located on a stationary carriage located at the center of the channel on the leeward side of the model approximately 20 feet away and 10 feet above the still water level. The video cameras were instrumental in observing the stability of the model during each test run. Three complete and time coordinated video tapes of each test run were recorded including audio comments regarding significant characteristics of the run. The video tapes are synchronized with each other and the digital data records by dubbing WWV time code onto audio channel 2.

Calibration of the wave gauge instrumentation was performed prior to beginning the tests to ensure accuracy of the recorded data and then again before the second phase of testing and upon completion of all tests. Calibration was achieved by filling or draining the channel and correlating the change in water depth with the output of each instrument. Table 3.2 provides calibration constants for each resistance wave gauge taken during each calibration, along with an average calibration constant and standard deviation for each gauge. The calibration constant for the current meters is 10 volts full scale per meter per second of velocity. Figure 3.2 shows the location of the instruments used in this study.





W - WAVE GAGE

C - CURRENT METER

V - VIDEO CAMERA

Figure 3.2 Diagram of instrumentation in the wave channel

### 3.3 Wave Conditions

The majority of test runs were conducted with monochromatic or simple periodic waves. The repetition provided by monochromatic waves allowed for enhanced judgement of the stability of the outfall for a given wave condition. A range of periods was chosen based upon significant wave periods that were forecasted at the prototype location. The procedure for testing the outfall stability in monochromatic waves was to subject the model to waves of a specific period, increasing the wave height by small incremental adjustments to the stroke of the wavemaker until the wave was breaking at or near the model. Monochromatic wave tests were 10 minutes in duration and the period of the waves remained constant during the run. During each test run, the stability of the model was observed and recorded by representatives of Brown and Caldwell.

The potential for damage to the armoring of an outfall is increased in random sea conditions where a short series of very large waves is possible during the random sequence. Therefore, random waves runs were included as part of the testing. The Jonswap spectrum was chosen to model the random sea conditions. The equation for this spectrum is:

$$S(f) = \alpha H_s^2 (1/T_p^4 f^5) \exp[-1.25/(T_p f)^4] \gamma^6$$

where,

$$\alpha = 0.0624 / \left[ 0.230 + 0.0336\gamma - (0.185 / (1.9 + \gamma)) \right]$$

$$\beta = \exp \left[ -(T_p f - 1)^2 / 2 \sigma^2 \right]$$

$$\sigma = \sigma_a : f \leq f_p, \sigma_b : f \geq f_p$$

$$\sigma_a \approx 0.07, \sigma_b \approx 0.09$$

$$\gamma = 1 \sim 7 \text{ (mean 3.3)}$$

$H_s$  = significant wave height

$T_p$  = peak wave period

The significant wave height and peak period of the random wave sequence was chosen based upon forecast prototype design wave conditions. The procedure for testing the model in random waves was to subject it to a random wave sequence varying from 10 to 30 minutes duration. During each test run, the stability of the model was observed and recorded.

The model tests were divided into two phases, designated A and B. Phase A of the tests modeled the existing condition of the outfall for breaking and non-breaking monochromatic waves with periods of 14, 16, 19, and 22 seconds and with random waves at prototype depths of 15, 30 and 45 feet. The scale of the waves varied with depth. Phase B of the tests modeled the proposed additional armoring on the outfall for breaking and non-breaking waves under similar conditions. The scale during phase B of the tests remained constant for all test

runs modeling the Goleta outfall. Figure 3.3 shows monochromatic waves breaking on the model of the existing condition of the outfall. Figure 3.4 shows the model, configured with the proposed armoring, being subjected to a sequence of random waves.

### 3.4 Summary of Test Runs

A total of 64 test runs and three calibration runs were made during phase A and B of the tests. Each run was identified by a run number which indicates the phase of testing, the reciprocal of the scale factor and the specific run designator. In addition to tests performed specifically for the Goleta outfall study, tests of the San Diego Point Loma outfall were run at the request of Brown and Caldwell. Test runs modeling the Goleta outfall are identified by run numbers beginning with A131, A155, A120 and B126 where the numeric code represents the reciprocal scale ratio of 13.1, 15.5, 12.0 and 12.57, respectively. Test runs which modeled prototype conditions which were non-specific to the Goleta study are identified by scale ratios other than those listed above.



Figure 3.3 Monochromatic waves breaking on model of existing condition

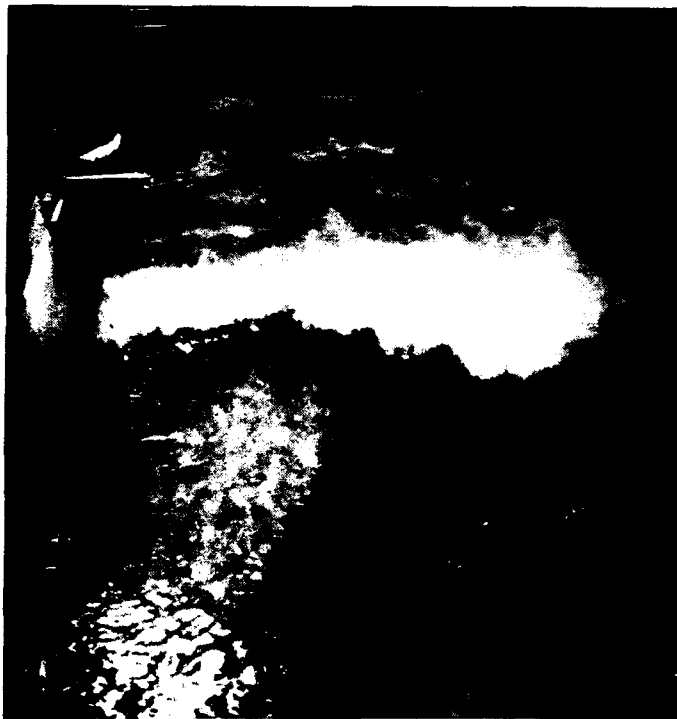


Figure 3.4 Random waves breaking on model with proposed armoring

## 4.0 RESULTS

### 4.1 Overview

The quantitative results for this study are a description of the hydrodynamic environment for each run condition. Wave profiles are quantified in terms of wave period, incident and reflected wave heights, as well as transmitted and beach reflected wave heights. Equivalent properties for both random and monochromatic waves are reported as the peak wave period and zero moment wave height. Horizontal velocity amplitudes of the currents at the toe of the slope on the seaward and leeward sides of the model are also reported. Results are summarized in tabular form at both model and prototype scale. Graphical interpretations of dimensionless results are also provided.

### 4.2 Analysis Methods

The armored outfall pipe creates a partial blockage of the water column which causes a fraction of the incident wave energy to be reflected back towards the wave generator. Two wave profile measurements are required to separate the unknown incident and reflected wave components. This is accomplished by spacing two wave gauges at a distance between 5% and 45% of the wave length and performing simultaneous measurements. Fourier analysis yields the sine and cosine amplitudes of each frequency component which can be interpreted to separate the incident and reflected waves (Goda, 1985). This method is applied to both monochromatic and random waves.

The zero moment wave height,  $H_{mo}$ , is the height of a single wave component which has twice the energy of the measured wave system. In deep water for waves of low steepness, the zero-moment wave height is equivalent to the significant wave height,  $H_s$ . The root-mean-square wave height,  $H_{rms}$ , has an energy level that is equal to the total energy in a random sea condition. The root-mean-square wave height is equal to the zero moment wave height divided by the square root of two.

$$H_{rms} = \frac{H_{mo}}{\sqrt{2}}$$

Thus, a random sea state may be reported as an equivalent single wave in terms of the peak wave period and either the zero moment wave height or the root-mean-square wave height.

The analysis method used in this report combines Fourier analysis to separate frequency components along with the Goda method to separate incident and reflected waves. The total energy for each wave system is obtained by integrating the power spectral density over the frequency range applicable to the measurement scheme. The energy of the incident and reflected wave trains are interpreted to quantify the zero-moment incident and reflected wave heights on both sides of the structure. The ratio of the reflected to incident zero moment wave height provides an estimate of the effective reflection coefficient for the structure and beach. The peak wave periods are identified at the peak of the measured power spectral densities.

A pair of wave gauges is required to compute the incident and reflected wave characteristics discussed above. With three gauges each on the seaward and leeward sides of the model, three combinations of two gauges are available to separate the incident and reflected waves. This provides three estimates to the wave conditions on each side of the structure. The Appendix to this report provides all three estimates of incident and reflected wave conditions for each test run on both sides of the structure. Also, an analysis of Wave Gauge 4 data taken near the center of the model and the two current meters is provided. Test waves were observed to continue to shoal and break in the vicinity of the model. The observed conditions violate the stationary and spatially independent assumptions implicit in the Goda method. Thus, some variation in the results between different combinations of wave gauges is expected. Wave induced velocities of the toe of the seaward and leeward slopes of the structure are also Fourier analyzed. No separation of incident and reflected wave components is possible with local velocity measurements. Nevertheless, the equivalent zero-moment velocity height, or double amplitude, is computed for each record, utilizing a method analogous to that described for the wave profile measurements. The zero moment velocity double amplitude and peak period for the two current measurements are also tabulated in the Appendix.

#### 4.3 Tabular Summary of Wave Conditions

Table 4.1 provides a summary of the model test conditions for each separate wave test. It is a reference log for the analyzed data which follows.



Table 4.1 Data Log Summary

Run Number	Scale Ratio 1:	Run Date	Run Time	Dura- tion (sec)	Mon or Rand	Depth@ Wavbrd (Ft)	Depth Model (Ft)	Wave Period (Sec)	Target Wave Ht.(Ft)	Measured Wave Ht.(Ft)	Wave- Maker Span
CALIB-1	-	10FEB92	17:20	14400	--	--	--	--	--	--	--
A131-01	13.1	11FEB92	10:10	600	M	13.04	2.29	5.25	0.763	0.75	1.0
A131-02	13.1	11FEB92	10:29	600	M	13.04	2.29	5.25	1.145	1.13	1.0
A131-03	13.1	11FEB92	10:51	600	M	13.04	2.29	5.25	1.145	1.31	1.0
A131-04	13.1	11FEB92	11:38	600	M	13.04	2.29	5.25	BREAK	1.6	0.57
A131-05	13.1	11FEB92	11:58	600	M	13.04	2.29	5.25	BREAK	1.6	0.57
A131-06	13.1	11FEB92	13:30	600	M	13.04	2.29	6.078	BREAK	1.6	0.57
A131-07	13.1	11FEB92	13:51	600	M	13.04	2.29	6.078	BREAK	1.4	0.55
A131-08	13.1	11FEB92	14:16	600	M	13.04	2.29	4.421	BREAK	1.41	0.57
A131-09	13.1	11FEB92	14:37	600	M	13.04	2.29	3.868	BREAK	1.54	0.62
A131-10	13.1	11FEB92	14:56	600	M	13.04	2.29	5.25	2.25	1.47	0.59
A131-11	13.1	11FEB92	15:23	768	R	13.04	2.29	5.25*	1.552*	--	--
A131-12	13.1	11FEB92	15:47	1800	R	13.04	2.29	5.25*	1.552*	--	--
A131-13	13.1	12FEB92	09:13	600	M	13.04	2.29	5.25	BREAK	--	0.57
A131-14	13.1	12FEB92	09:37	600	R	13.04	2.29	5.25*	1.552*	--	--
A155-01	15.5	12FEB92	10:56	600	M	13.65	2.903	4.826	BREAK	1.93	0.74
A155-02	15.5	12FEB92	11:39	600	R	13.65	2.903	4.826*	1.60*	--	--
A155-03	15.5	12FEB92	12:02	600	M	13.65	2.903	3.556	BREAK	1.95	0.76
A155-04	15.5	12FEB92	12:23	600	M	13.65	2.903	4.064	BREAK	--	0.76
A155-05	15.5	12FEB92	12:39	600	M	13.65	2.903	5.588	BREAK	--	0.73
A155-06	15.5	12FEB92	13:05	3600	M	13.65	2.903	4.826	VARY	1.63	--
A120-01	12.0	13FEB92	08:45	600	M	12.00	1.25	5.485	BREAK	0.67	0.37

Table 4.1 (cont'd)

Run Number	Scale Ratio 1:	Run Date	Run Time	Duration (sec)	Mon or Rand	Depth@ Wavbrd (Ft)	Depth Model (Ft)	Wave Period (Sec)	Target Wave Ht.(Ft)	Measured Wave Ht.(Ft)	Wave-Maker Span
A120-02	12.0	13FEB92	09:13	1800	R	12.00	1.25	5.485*	1.0*	--	0.75
A120-03	12.0	13FEB92	10:01	600	M	12.00	1.25	4.042	BREAK	0.85	0.35
A120-04	12.0	13FEB92	10:18	600	M	12.00	1.25	4.619	BREAK	0.72	0.35
A120-05	12.0	13FEB92	10:37	600	M	12.00	1.25	6.351	BREAK	0.82	0.38
A120-06	12.0	13FEB92	10:52	600	M	12.00	1.25	5.485	BREAK	--	0.36
A452-01	4.52	13FEB92	11:22	600	M	11.75	1.0	2.826	BREAK	--	0.25
A452-02	4.52	13FEB92	11:44	600	M	11.75	1.0	2.826	BREAK	0.5	0.25
SD549-01	5.49	13FEB92	14:00	600	M	11.67	0.92	1.89	BREAK	0.5	1.0
SD549-02	5.49	13FEB92	14:16	600	M	11.67	0.92	2.565	BREAK	0.3+	0.45
CALIB-2	-	13FEB92	14:39	14400	--	--	--	--	--	--	--
B126-01	12.57	19FEB92	09:18	600	M	14.33	3.58	5.36	0.8	0.8	0.38
B126-02	12.57	19FEB92	09:32	600	M	14.33	3.58	5.36	1.2	1.23	0.55
B126-03	12.57	19FEB92	09:47	600	M	14.33	3.58	5.36	BREAK	2.75	0.93
B126-04	12.57	19FEB92	10:05	600	M	14.33	3.58	5.36	BREAK	2.75	0.93
B126-05	12.57	19FEB92	10:36	600	M	14.33	3.58	5.36	--	2.3	0.85
B126-06	12.57	19FEB92	11:15	1800	R	14.33	3.58	5.36*	1.97*	--	1.0
B126-07	12.57	19FEB92	11:58	600	M	14.33	3.58	6.21	BREAK	2.41	0.63
B126-08	12.57	19FEB92	13:38	600	M	14.33	3.58	4.51	BREAK	2.0	0.65
B126-09	12.57	19FEB92	13:55	600	M	14.33	3.58	3.95	--	2.3	0.63
B126-10	12.57	19FEB92	14:12	600	M	14.33	3.58	5.36	--	2.58	0.90
B126-11	12.57	19FEB92	14:30	600	R	14.33	3.58	5.36*	--	--	1.0
B126-12	12.57	19FEB92	14:53	600	M	14.33	3.58	5.64	--	2.65	0.60

Table 4.1 (cont'd)

Run Number	Scale Ratio 1:	Run Date	Run Time	Duration (sec)	Mon or Rand	Depth@ Wavbrd (Ft)	Depth Model (Ft)	Wave Period (Sec)	Target Wave Ht. (Ft)	Measured Wave Ht. (Ft)	Wave-Maker Span
B126-13	12.57	19FEB92	15:08	600	M	14.33	3.58	5.08	--	2.75	0.65
B126-14	12.57	19FEB92	16:30	600	M	13.14	2.39	5.36	--	2.02	0.65
B126-15	12.57	19FEB92	16:52	1800	R	13.14	2.39	5.36*	1.62*	--	1.0
B126-16	12.57	20FEB92	08:23	600	M	13.14	2.39	6.21	--	1.86	0.43
B126-17	12.57	20FEB92	08:39	600	M	13.14	2.39	4.51	--	1.34	0.41
B126-18	12.57	20FEB92	08:56	600	M	13.14	2.39	3.95	--	1.76	0.45
B126-19	12.57	20FEB92	10:13	600	M	11.94	1.19	5.36	--	0.78	0.33
B126-20	12.57	20FEB92	10:38	600	R	11.94	1.19	5.36*	1.0*	--	0.95
B100-01	10.00	20FEB92	13:21	600	M	13.75	3.0	6.0	--	2.26	0.50
B100-02	10.00	20FEB92	13:46	600	R	13.75	3.0	6.0*	2.03*	--	--
B857-01	8.57	20FEB92	14:52	600	M	14.25	3.5	6.49	--	2.58	0.60
B857-02	8.57	20FEB92	15:11	1800	M	14.25	3.5	6.49	--	2.58	0.60
B857-03	8.57	20FEB92	15:58	1800	R	14.25	3.5	6.49*	2.37*	--	1.0
B750-01	7.50	21FEB92	08:28	600	M	14.75	4.0	6.938	--	3.0	0.70
B750-02	7.50	21FEB92	08:58	600	M	14.75	4.0	6.938	1.0	1.1	0.35
B750-03	7.50	21FEB92	09:16	600	M	14.75	4.0	6.938	2.0	1.95	0.52
B750-04	7.50	21FEB92	09:35	600	M	14.75	4.0	6.938	1.5	1.46	0.43
B750-05	7.50	21FEB92	09:54	600	M	14.75	4.0	6.938	2.5	2.5	0.61
B113-01	11.3	21FEB92	10:39	600	M	14.75	4.0	5.665	--	1.7	0.50
B113-02	11.3	21FEB92	10:56	600	M	14.75	4.0	5.665	2.23	2.7	0.66
B113-03	11.3	21FEB92	11:31	1800	R	14.75	4.0	5.66*	1.81*	--	1.0
B113-04	11.3	21FEB92	12:19	1800	R	14.75	4.0	5.66*	3.60*	--	0.70
CALIB-3	-	21FEB92	15:48	14400	--	--	--	--	--	--	--

This log identifies model conditions associated with each numbered run including: scale ratio, date and time of experiment, duration of data sample, whether the test utilized random or monochromatic waves, the water depth at the wave board and at the model, the input wave period and height, the oscillograph observed wave height on the seaward side of the structure and the fractional equivalent of total wave maker span required to achieve the model wave condition. The asterisk at the reported random wave conditions refer to the input peak wave period and significant wave height.

Table 4.2 provides a log of video tape numbers associated with the recorded underwater and above water video documentation. Note that each video tape is specific to a location in the wave channel and typically includes a video record of several consecutive test runs. Therefore, the listed test run number corresponding to a particular video tape represents the first test run on the tape. The locations reported in the table are to be interpreted as follows: CALIB refers to calibration observations of the water surface rising on a one-tenth foot division staff on the side of the wave channel, used to calibrate the wave gauges; Seaward refers to an underwater video camera attached to the east wall of the wave channel and observing the seaward slope of the model through a wide angle lens; Leeward refers to an underwater video camera attached to the west wall of the wave channel and observing the leeward slope of the model through a telephoto lens; Surface refers to an above water video camera placed on a carriage which spanned the width of the wave channel and observed the leeward side of the structure and the waves interacting with the structure.

Table 4.2 Video Tape Log

Tape No.	Run No.	Tape No.	Run No.
1	CALIB-1	22	B126-01, Leeward
2	CALIB-1, cont'd	23	B126-01, Surface
3	A131-01, Seaward	24	B126-07, Surface
4	A131-01, Leeward	25	B126-10, Seaward
5	A131-01, Surface	26	B126-10, Leeward
6	A131-08, Surface	27	B126-15, Surface
7	A131-11, Seaward	28	B126-16, Surface
8	A131-11, Leeward	29	B126-16, Seaward
9	A131-13, Seaward	30	B126-16, Leeward
10	A131-13, Leeward	31	B857-03, Seaward
11	A131-13, Surface	32	B857-03, Leeward
12	A155-06, Surface	33	B857-02, Surface
13	A155-06, Seaward	34	B750-01, Surface
14	A155-06, Leeward	35	B750-01, Seaward
15	A120-01, Seaward	36	B750-01, Leeward
16	A120-01, Leeward	37	B113-03, Surface
17	A120-01, Surface	38	B113-04, Leeward
18	CALIB-2	39	B113-04, Seaward
19	CALIB-2, cont'd	40	CALIB-3
20	Armor Rock Const.	41	CALIB-3, cont'd
21	B126-01, Seaward	42	Pump Down

The Appendix summarizes the analyzed data for each data run on a single page. The run number is referred to as "Test Identification." The first column summarizes data on the seaward side of the structure. The second column summarizes data on the leeward side of the structure. The third column summarizes data for the wave gauge at the center of the structure and the two current meters. At the top of the first two columns, the model water depth is listed followed by the "Data Channels used to compute Coefficients" and "Distance between channels in feet." The data channel numbers refer to the numbers in column one of Table 3.1. The distance between channels refers to wave gauge spacing, which is the difference between numbers reported in column four of Table 3.1. The latter is required input to Goda's analysis for separating the incident and reflected waves. The spacing between wave gauge pairs used in the Goda analysis is given the symbol DL and is reported for each data set. Thus, in column one of the Appendix, combining channels 1 and 2 corresponds to  $DL = 7.0$  ft; combining channels 2 and 3 corresponds to  $DL = 2.5$  ft and combining channels 1 and 3 corresponds to  $DL = 9.5$  ft.

For each of three wave gauge combinations, a summary of the "Incident wave energy" and "Reflected wave energy" is reported in the Appendix. In each case, the raw wave energy spectrum is smoothed with a 13 component box car averaging scheme. The resulting "Total smoothed energy" is listed in model units of  $\text{ft}^2$ ; this is the total energy integrated under the power spectrum curve and is equal to the variance of the water surface profiles. Energy is conserved by the smoothing process. The "Maximum smoothed value" is the peak value of the

power spectral density curve in model units of  $\text{ft}^2\text{-sec}$ . The "First moment" and "Second moment" of the power spectral density are related to shape factors of skewness and kurtosis, indicating asymmetry and peakedness, respectively. The zero moment wave height, " $H_{m0}$ ," is four times the square root of the "Total smoothed energy" and is equivalent to the significant wave height for deep water waves. It is the wave height parameter chosen for quantifying the water surface profile in this study. The wave period at the peak in the spectral density curve is " $T_p$ ." In some instances, very asymmetric monochromatic waves will yield at peak at a sub-harmonic or super-harmonic of the target wave period. The "Reflection coefficient" is simply the zero moment wave height of the reflected wave divided by the zero-moment wave height of the incident wave. This information is repeated in the Appendix for three wave gauge spacings on the seaward side of the structure (column one) and three wave gauge spacings on the leeward side of the structure (column 2). The incident wave in column two represents the wave transmitted beyond the structure. The reflected wave in column 2 represents the wave reflected from the 1:12 sloped concrete beach.

The third column in the Appendix presents three types of wave information. The first group quantifies the total wave energy, incident plus reflected, at Wave Gauge 4 located on the seaward side of the model, on the east wall opposite the model centerline. The results are indicative of the total wave energy at the structure. The quantities presented are identical in character to that from the wave gauge pairs except the reflected wave cannot be separated from the

incident wave with a single, local wave measurement. Thus, no reflection coefficient is quantified from Wave Gauge 4.

The remaining groups of data in column 3 of the Appendix are interpretations of the current meter measurements. The three axis sonic current meters were located six inches above the seabed, approximately one foot from the toe of the structure on seaward and leeward sides. Power spectral densities of horizontal and vertical velocity components were resolved from these measurements. Separation of incident and reflected wave effects were not possible with the single, local velocity measurements. The data provided is analogous to that described for the surface wave profile measurements. Note that the zero-moment velocity height, " $U_{mo}$ " is similar to the zero moment wave height. It is a double amplitude representation of a simple harmonic velocity with energy equal to twice the variance of the actual time series. It could be interpreted as the double amplitude velocity associated with the significant wave. Identical data sets are provided for both the horizontal and vertical velocity components on both the seaward and leeward sides of the structure.

Table 4.3 summarizes significant measured hydrodynamic parameters from the Appendix at model scale for each run condition identified in Table 4.1. Only results which include a peak period within 25% of the target period for each test run are summarized. Where multiple estimates of incident or reflected wave conditions are within 25% of the target wave period, an average of the tabulated values is computed. If the peak measured period is not within 25% of the target period, that portion of the summary is left blank. However, the full data summary



Table 4.3 Summary of Hydrodynamic Properties - Model Scale

Run Number	Model Depth (ft)	Mono or Rand	Incident Wave				Model Center		Transmitted Wave			
			Tp (sec)	Model Kr	Umo (fps)	Hmo (ft)	Tp (sec)	Hmo (ft)	Tp (sec)	Beach Kr	Umo (fps)	Hmo (ft)
A131-01	2.29	M	5.278	0.184	3.235	0.718	5.224	0.833	5.278	0.330	0.487	0.487
A131-02	2.29	M	5.278	0.210	3.927	0.973	5.224	1.270	5.278	0.370	---	0.498
A131-03	2.29	M	5.278	0.211	3.928	0.969	5.224	1.275	5.224	0.378	3.488	0.501
A131-04	2.29	M	5.260	0.235	3.939	1.007	---	---	5.278	0.388	---	0.472
A131-05	2.29	M	5.278	0.236	3.926	1.006	---	---	5.278	0.393	---	0.475
A131-06	2.29	M	5.953	0.146	3.940	1.073	5.953	1.187	5.953	0.182	3.443	0.591
A131-07	2.29	M	5.953	0.145	3.975	1.062	5.953	1.038	5.953	0.185	3.450	0.602
A131-08	2.29	M	4.531	0.214	---	1.100	4.531	1.101	4.531	0.303	3.848	0.644
A131-09	2.29	M	3.821	0.087	4.053	0.957	---	---	3.840	0.118	---	0.598
A131-10	2.29	M	5.260	0.250	3.923	1.025	---	---	5.278	0.314	---	0.582
A131-11	2.29	R	5.447	0.209	3.263	0.799	5.689	0.923	5.689	0.232	3.006	0.805
A131-12	2.29	R	5.447	0.238	3.353	0.813	5.447	0.965	5.447	0.241	3.080	0.813
A131-13	2.29	M	5.278	0.233	3.919	1.015	---	---	5.278	0.402	---	0.488
A131-14	2.29	R	5.505	0.223	3.085	0.767	5.505	0.916	5.505	0.233	2.877	0.744
A155-01	2.90	M	4.613	0.180	4.807	1.457	4.741	1.591	4.613	0.280	4.127	0.883
A155-02	2.90	R	5.004	0.196	3.510	0.982	5.020	1.126	5.020	0.200	3.269	0.975
A155-03	2.90	M	3.683	0.211	5.428	1.559	3.683	2.068	3.649	0.190	4.330	1.563
A155-04	2.90	M	4.231	0.103	4.448	1.284	---	---	3.949	0.218	4.712	1.382
A155-05	2.90	M	5.560	0.170	4.461	1.458	5.689	1.675	---	---	3.935	---
A155-06	2.90	M	4.785	0.114	3.459	0.972	4.785	1.144	4.763	0.164	3.065	0.843
A120-01	1.25	M	5.408	0.383	2.775	0.553	5.447	0.508	5.389	0.890	1.965	0.231

Table 4.3 (cont'd)

Run Number	Model Depth (ft)	Mono or Rand	Incident Wave				Model Center		Transmitted Wave			
			Tp (sec)	Model Kr	Umo (fps)	Hmo (ft)	Tp (sec)	Hmo (ft)	Tp (sec)	Beach Kr	Umo (fps)	Hmo (ft)
A120-02	1.25	R	5.689	0.326	2.128	0.367	5.689	0.404	---	---	1.760	---
A120-03	1.25	M	4.080	0.293	---	48.100	---	---	4.052	0.342	---	0.602
A120-04	1.25	M	4.719	0.262	---	0.496	---	---	4.741	0.386	---	0.234
A120-05	1.25	M	4.726	0.257	---	0.550	---	---	4.741	0.398	---	0.210
A120-06	1.25	M	5.428	0.374	2.801	0.560	5.447	0.636	5.447	0.146	---	2.480
A452-01	1.00	M	3.282	0.621	2.839	0.174	---	---	3.003	0.427	1.749	0.412
A452-02	1.00	M	2.909	0.688	3.101	0.312	---	---	2.846	0.487	1.507	0.599
SD549-01	0.92	M	---	---	---	---	---	---	---	---	---	---
SD549-02	0.92	M	3.122	0.649	2.846	---	2.462	0.329	2.867	0.361	1.621	0.239
B126-01	3.58	M	5.389	0.111	2.893	0.911	5.389	0.940	5.370	0.125	2.429	0.793
B126-02	3.58	M	5.389	0.108	3.906	1.308	5.333	1.404	5.370	0.149	3.415	1.163
B126-03	3.58	M	5.389	0.127	5.012	1.842	5.333	2.122	---	---	4.868	---
B126-04	3.58	M	5.389	0.135	5.165	1.918	5.333	2.236	---	---	4.977	---
B126-05	3.58	M	5.389	0.127	5.071	1.842	5.333	2.143	---	---	4.978	---
B126-06	3.58	R	5.220	0.196	4.162	1.322	5.565	1.498	5.488	0.200	3.894	1.182
B126-07	3.58	M	6.169	0.169	5.717	1.994	6.169	1.966	6.244	0.178	4.687	1.339
B126-08	3.58	M	4.491	0.172	5.221	1.881	4.491	1.722	4.491	0.124	4.623	1.239
B126-09	3.58	M	3.969	0.105	5.576	1.984	3.969	2.161	3.969	0.138	5.115	1.921
B126-10	3.58	M	5.389	0.129	5.216	1.886	5.333	2.242	---	---	5.117	---
B126-11	3.58	R	5.347	0.187	3.896	1.218	5.626	1.368	5.626	0.206	3.700	1.131
B126-12	3.58	M	5.753	0.207	5.193	1.980	5.753	2.168	---	---	5.291	---
B126-13	3.58	M	5.172	0.205	5.542	2.139	5.172	2.203	5.224	0.247	4.765	1.450

Table 4.3 (cont'd)

Run Number	Model Depth (ft)	Mono or Rand	Incident Wave				Model Center		Transmitted Wave			
			Tp (sec)	Model Kr	Umo (fps)	Hmo (ft)	Tp (sec)	Hmo (ft)	Tp (sec)	Beach Kr	Umo (fps)	Hmo (ft)
B126-14	2.39	M	5.352	0.209	3.710	1.088	5.333	1.554	5.333	0.304	4.090	0.457
B126-15	2.39	R	5.608	0.233	3.473	0.916	5.626	1.035	5.626	0.252	3.268	0.768
B126-16	2.39	M	6.169	0.180	4.192	1.197	6.169	1.275	6.169	0.198	3.662	0.638
B126-17	2.39	M	4.518	0.133	3.974	1.185	---	---	4.531	0.306	---	0.695
B126-18	2.39	M	3.969	0.182	---	1.201	3.969	1.550	3.969	0.138	3.859	1.099
B126-19	1.19	M	5.352	0.276	2.649	0.500	---	---	5.389	0.249	---	0.213
B126-20	1.19	R	5.505	0.361	2.352	0.444	5.505	0.468	---	---	1.998	---
B100-01	3.00	M	5.953	0.199	4.720	1.530	5.953	1.741	---	---	4.279	---
B100-02	3.00	R	6.321	0.214	4.173	1.246	6.321	1.276	6.169	0.224	3.852	0.957
B857-01	3.50	M	6.827	0.173	5.613	1.852	6.827	2.004	6.827	0.191	4.762	1.161
B857-02*	3.50	M	6.607	0.177	5.175	1.854	6.481	2.003	6.361	0.185	4.506	1.156
B857-03	3.50	R	6.919	0.235	4.747	1.487	6.919	1.479	6.919	0.241	4.768	1.154
B750-01	4.00	M	6.827	0.179	6.333	2.156	6.827	2.044	6.827	0.199	5.827	1.210
B750-02	4.00	M	7.211	0.123	4.035	1.242	7.111	1.200	7.111	0.102	4.028	1.087
B750-03	4.00	M	7.211	0.108	5.495	1.827	7.111	1.838	7.111	0.138	5.808	1.575
B750-04	4.00	M	7.211	0.130	4.890	1.524	7.111	1.518	7.111	0.106	4.726	1.300
B750-05	4.00	M	7.529	0.161	6.416	1.891	6.737	2.154	7.111	0.189	6.397	1.491
B113-01	4.00	M	5.626	0.151	4.947	1.785	5.626	1.786	---	---	5.222	---
B113-02	4.00	M	5.626	0.206	5.981	2.251	5.626	2.273	---	---	5.936	---
B113-03	4.00	R	5.953	0.152	3.919	1.374	5.953	1.403	5.675	0.167	4.049	1.145
B113-04	4.00	R	6.095	0.194	5.073	1.798	6.095	1.785	6.095	0.200	5.182	1.512

\* current meter data divided by scale factor of 10

is included in the Appendix for all run conditions. "Incident wave" characteristics are summarized from the seaward side of the structure, column 1 in the Appendix. "Transmitted wave" characteristics are summarized from the leeward side of the structure, column 2 in the Appendix. "Model Center" present results from Wave Gauge 4.

Table 4.4 summarizes the measured hydrodynamic parameters at prototype scale for each run condition identified in Table 4.1. Values reported in Table 4.4 are based on Table 4.3 values which are scaled by Froude number as discussed in section 2.2 of this report. Wave height and water depth are scaled in direct proportion to the length scale while wave period and velocity are scaled in proportion to the square root of the length scale.

#### 4.4 Graphical Summary of Wave Conditions

A graphic presentation of significant hydrodynamic parameters is divided into two groups corresponding to the two phases of testing. The two phases are the existing armor condition and the proposed armor condition. For each phase, graphical summaries are provided of the wave steepness, reflection and transmission coefficients and dimensionless wave orbital velocity. The results are graphed as functions of the dimensionless relative depth, i.e., the ratio of the water depth to the linear wave theory deep water wave length. The latter represents a rational method of combining water depth and wave period as

Table 4.4 Summary of Hydrodynamic Properties - Prototype Scale

Run Number	Model Depth (ft)	Mono or Rand	Incident Wave				Model Center		Transmitted Wave			
			Tp (sec)	Model Kr	Umo (fps)	Hmo (ft)	Tp (sec)	Hmo (ft)	Tp (sec)	Beach Kr	Umo (fps)	Hmo (ft)
A131-01	30.00	M	19.103	0.184	11.709	9.406	18.908	10.912	19.103	0.330	1.763	6.380
A131-02	30.00	M	19.103	0.210	14.213	12.746	18.908	16.637	19.103	0.370	---	6.524
A131-03	30.00	M	19.103	0.211	14.217	12.694	18.908	16.703	18.908	0.378	12.624	6.563
A131-04	30.00	M	19.038	0.235	14.257	13.192	---	---	19.103	0.388	---	6.183
A131-05	30.00	M	19.103	0.236	14.210	13.179	---	---	19.103	0.393	---	6.223
A131-06	30.00	M	21.546	0.146	14.260	14.056	21.546	15.550	21.546	0.182	12.462	7.742
A131-07	30.00	M	21.546	0.145	14.387	13.912	21.546	13.598	21.546	0.185	12.487	7.886
A131-08	30.00	M	16.399	0.214	---	14.410	16.399	14.423	16.399	0.303	13.927	8.436
A131-09	30.00	M	13.830	0.087	14.669	12.537	---	---	13.898	0.118	---	7.834
A131-10	30.00	M	19.038	0.250	14.199	13.428	---	---	19.103	0.314	---	7.624
A131-11	30.00	R	19.715	0.209	11.810	10.467	20.591	12.091	20.591	0.232	10.880	10.546
A131-12	30.00	R	19.715	0.238	12.136	10.650	19.715	12.642	19.715	0.241	11.148	10.650
A131-13	30.00	M	19.103	0.233	14.184	13.296	---	---	19.103	0.402	---	6.393
A131-14	30.00	R	19.925	0.223	11.166	10.048	19.925	12.000	19.925	0.233	10.413	9.746
A155-01	44.95	M	18.161	0.180	18.925	22.584	18.665	24.661	18.161	0.280	16.248	13.687
A155-02	44.95	R	19.701	0.196	13.819	15.221	19.764	17.453	19.764	0.200	12.870	15.113
A155-03	44.95	M	14.500	0.211	21.370	24.165	14.500	32.054	14.366	0.190	17.047	24.227
A155-04	44.95	M	16.657	0.103	17.512	19.902	---	---	15.547	0.218	18.551	21.421
A155-05	44.95	M	21.890	0.170	17.563	22.599	22.398	25.963	---	---	15.492	---
A155-06	44.95	M	18.839	0.114	13.618	15.066	18.839	17.732	18.752	0.164	12.067	13.067
A120-01	15.00	M	18.734	0.383	9.613	6.636	18.869	6.096	18.668	0.890	6.807	2.772

Table 4.4 (cont'd)

Run Number	Model Depth (ft)	Mono or Rand	Incident Wave			Model Center			Transmitted Wave			
			Tp (sec)	Model Kr	Umo (fps)	Hmo (ft)	Tp (sec)	Hmo (ft)	Tp (sec)	Beach Kr	Umo (fps)	Hmo (ft)
A120-02	15.00	R	19.707	0.326	7.372	4.404	19.707	4.848	---	---	6.097	---
A120-03	15.00	M	14.134	0.293	---	5.772	---	---	14.037	0.342	---	7.224
A120-04	15.00	M	16.347	0.262	---	5.952	---	---	16.423	0.386	---	2.808
A120-05	15.00	M	16.371	0.257	---	6.600	---	---	16.423	0.398	---	2.520
A120-06	15.00	M	18.803	0.374	9.703	6.720	18.869	7.632	18.869	0.146	---	29.760
A452-01	4.52	M	6.978	0.621	6.036	0.786	---	---	6.384	0.427	3.718	1.862
A452-02	4.52	M	6.185	0.688	6.593	1.410	---	---	6.051	0.487	3.204	2.707
SD549-01	5.05	M	0.000	---	---	---	---	---	---	---	---	---
SD549-02	5.05	M	7.315	0.649	6.668	---	5.769	1.806	6.718	0.361	3.798	1.312
B126-01	45.00	M	19.106	0.111	10.257	11.451	19.106	11.816	19.039	0.125	8.612	9.968
B126-02	45.00	M	19.106	0.108	13.848	16.442	18.908	17.648	19.039	0.149	12.108	14.619
B126-03	45.00	M	19.106	0.127	17.770	23.154	18.908	26.674	---	---	17.259	---
B126-04	45.00	M	19.106	0.135	18.312	24.109	18.908	28.107	---	---	17.646	---
B126-05	45.00	M	19.106	0.127	17.979	23.154	18.908	26.938	---	---	17.649	---
B126-06	45.00	R	18.507	0.196	14.756	16.618	19.730	18.830	19.457	0.200	13.806	14.858
B126-07	45.00	M	21.872	0.169	20.269	25.065	21.872	24.713	22.138	0.178	16.617	16.831
B126-08	45.00	M	15.922	0.172	18.511	23.644	15.922	21.646	15.922	0.124	16.390	15.574
B126-09	45.00	M	14.072	0.105	19.769	24.939	14.072	27.164	14.072	0.138	18.135	24.147
B126-10	45.00	M	19.106	0.129	18.493	23.707	18.908	28.182	---	---	18.142	---
B126-11	45.00	R	18.957	0.187	13.813	15.310	19.947	17.196	19.947	0.206	13.118	14.217
B126-12	45.00	M	20.397	0.207	18.411	24.889	20.397	27.252	---	---	18.759	---
B126-13	45.00	M	18.337	0.205	19.649	26.887	18.337	27.692	18.521	0.247	16.894	18.227

Table 4.4 (cont'd)

Run Number	Model Depth (ft)	Mono or Rand	Incident Wave			Model Center		Transmitted Wave			
			Tp (sec)	Model Kr	Umo (fps)	Hmo (ft)	Tp (sec)	Hmo (ft)	Beach Kr	Umo (fps)	Hmo (ft)
B126-14	30.04	M	18.975	0.209	13.154	13.676	18.908	19.534	0.304	14.501	5.744
B126-15	30.04	R	19.883	0.233	12.313	11.514	19.947	13.010	0.252	11.586	9.654
B126-16	30.04	M	21.872	0.180	14.862	15.046	21.872	16.027	0.198	12.983	8.020
B126-17	30.04	M	16.018	0.133	14.089	14.895	---	---	0.306	---	8.736
B126-18	30.04	M	14.072	0.182	---	15.097	14.072	19.484	0.138	13.682	13.814
B126-19	14.96	M	18.975	0.276	9.392	6.285	---	---	0.249	---	2.677
B126-20	14.96	R	19.518	0.361	8.339	5.581	19.518	5.883	---	7.084	---
B100-01	30.00	M	18.825	0.199	14.926	15.300	18.825	17.410	---	13.531	---
B100-02	30.00	R	19.989	0.214	13.196	12.460	19.989	12.760	0.224	12.181	9.570
B857-01	30.00	M	19.986	0.173	16.432	15.872	19.986	17.174	0.191	13.941	9.950
B857-02*	30.00	M	19.342	0.177	15.150	15.889	18.973	17.166	0.185	13.191	9.907
B857-03	30.00	R	20.255	0.235	13.897	12.744	20.255	12.675	0.241	13.958	9.890
B750-01	30.00	M	18.697	0.179	17.344	16.170	18.697	15.330	0.199	15.958	9.075
B750-02	30.00	M	19.748	0.123	11.050	9.315	19.474	9.000	0.102	11.031	8.153
B750-03	30.00	M	19.748	0.108	15.049	13.703	19.474	13.785	0.138	15.906	11.813
B750-04	30.00	M	19.748	0.130	13.392	11.430	19.474	11.385	0.106	12.943	9.750
B750-05	30.00	M	20.619	0.161	17.571	14.183	18.450	16.155	0.189	17.519	11.183
B113-01	45.20	M	18.912	0.151	16.630	20.171	18.912	20.182	---	17.554	---
B113-02	45.20	M	18.912	0.206	20.105	25.436	18.912	25.685	---	19.954	---
B113-03	45.20	R	20.011	0.152	13.174	15.526	20.011	15.854	0.167	13.611	12.939
B113-04	45.20	R	20.489	0.194	17.053	20.317	20.489	20.171	0.200	17.420	17.086

$$L_0 = \frac{g T^2}{2 \pi}$$

where  $L_0$  = linear wave theory deep water wave length

$g$  = gravitational constant

$T$  = wave period

Figures 4.1 and 4.2 provide graphs of the non-dimensional zero-moment wave height versus non-dimensional water depth for various depths. A theoretical breaking wave limit (Dean 1974) is provided for comparison. The plotted points determined from analysis of recorded data are well grouped on both graphs and follow a general trend similar to and below the theoretical limit. This demonstrates that the experimental conditions were approaching the theoretical extreme wave environment. It should be noted that laboratory wave observations have demonstrated that maximum experimental wave heights are approximately 75% of the maximum theoretical breaking wave height. This observation is confirmed by Figures 4.1 and 4.2. The figures include both random and monochromatic test results. No significant trends relative to absolute values of water depth are apparent.

Figures 4.3 and 4.4 are graphs of the non-dimensional reflection coefficient of the model versus non-dimensional depth for each phase of testing. Ahrens (1987) provides an empirical expression for wave reflection from a reef breakwater as follows:



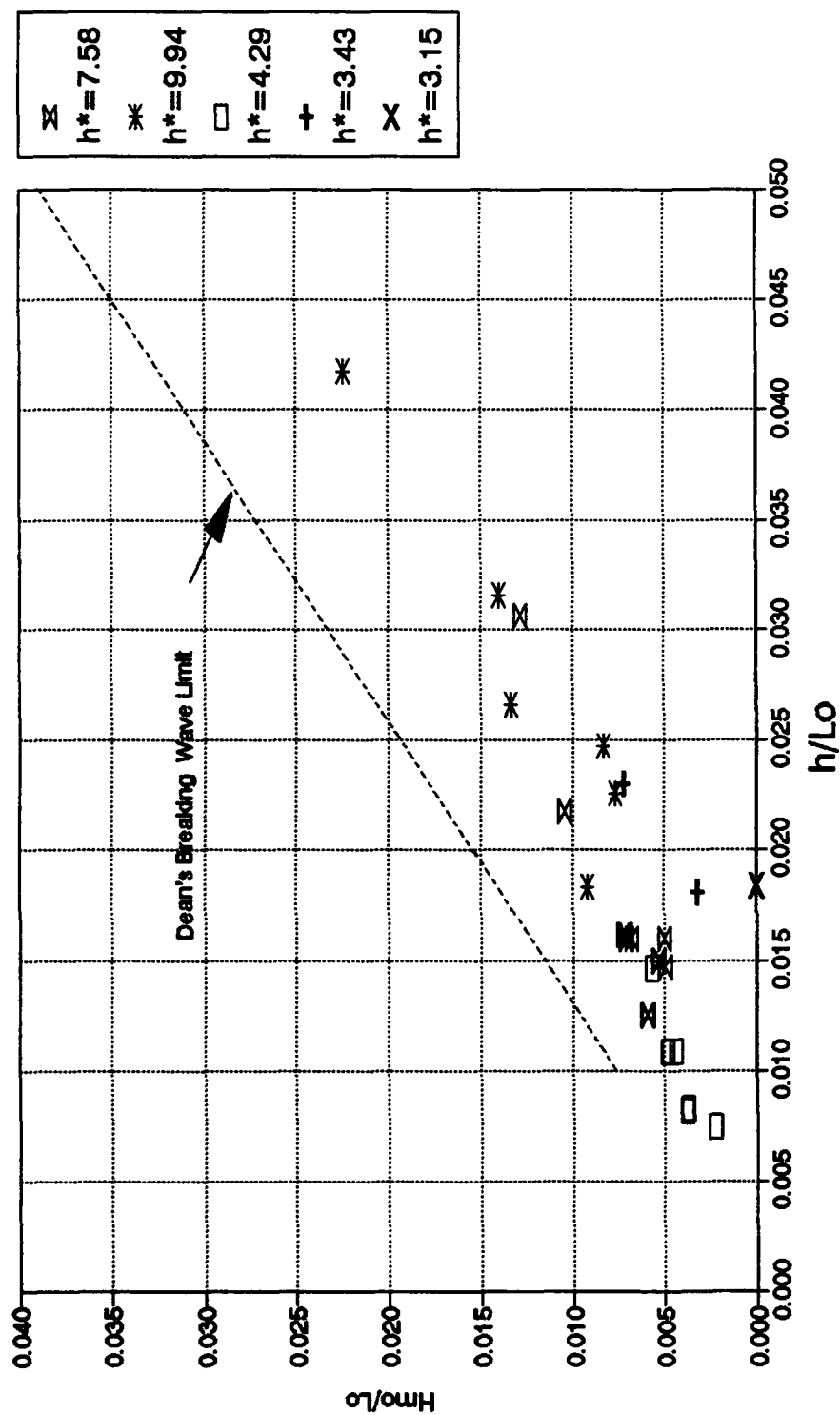


Figure 4.1 Wave steepness versus dimensionless depth for existing condition (relative depth,  $h^*$ , is non-dimensionalized by pipe diameter)

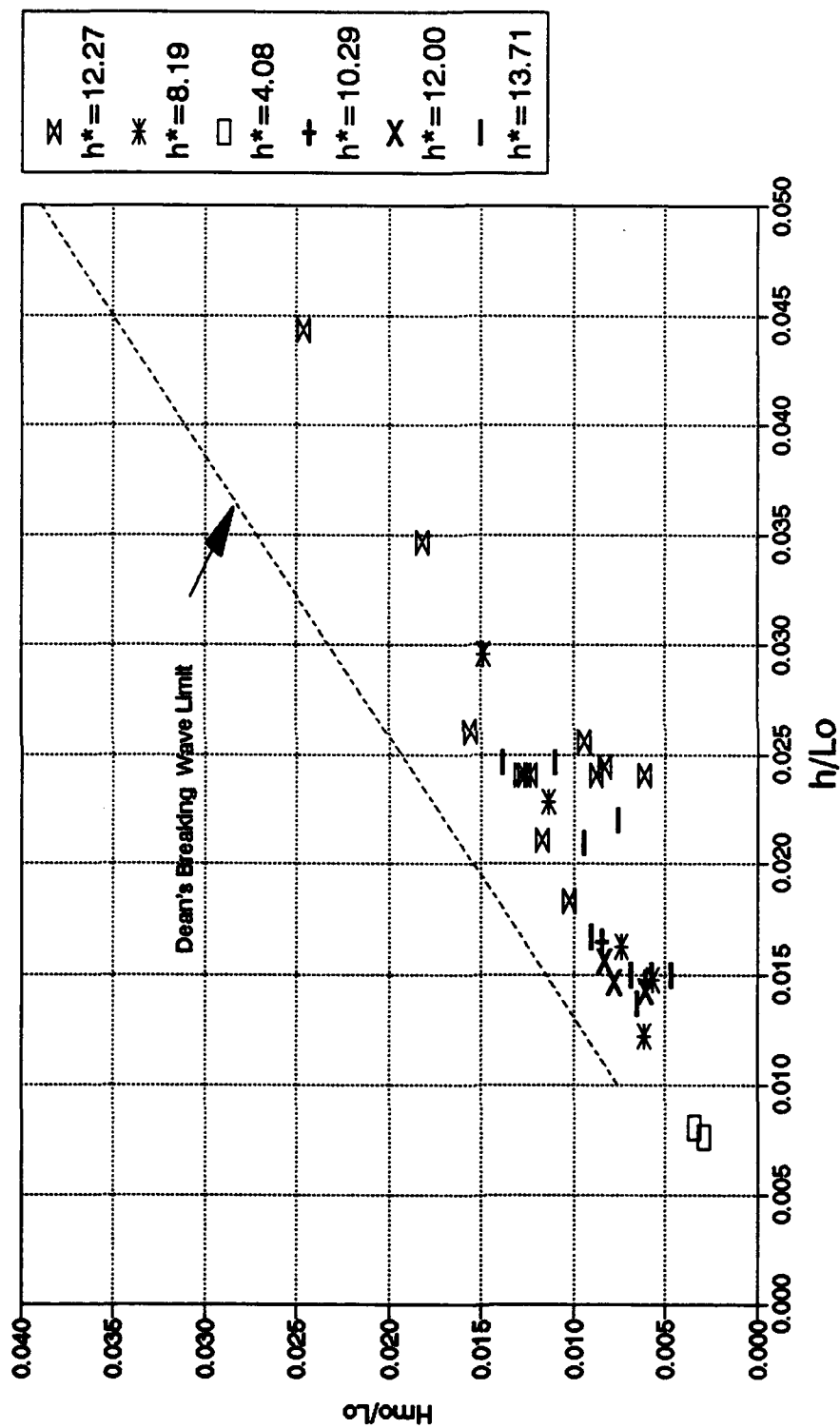


Figure 4.2 Wave steepness versus dimensionless depth for proposed armoring  
(relative depth,  $h^*$ , is non-dimensionalized by pipe diameter)

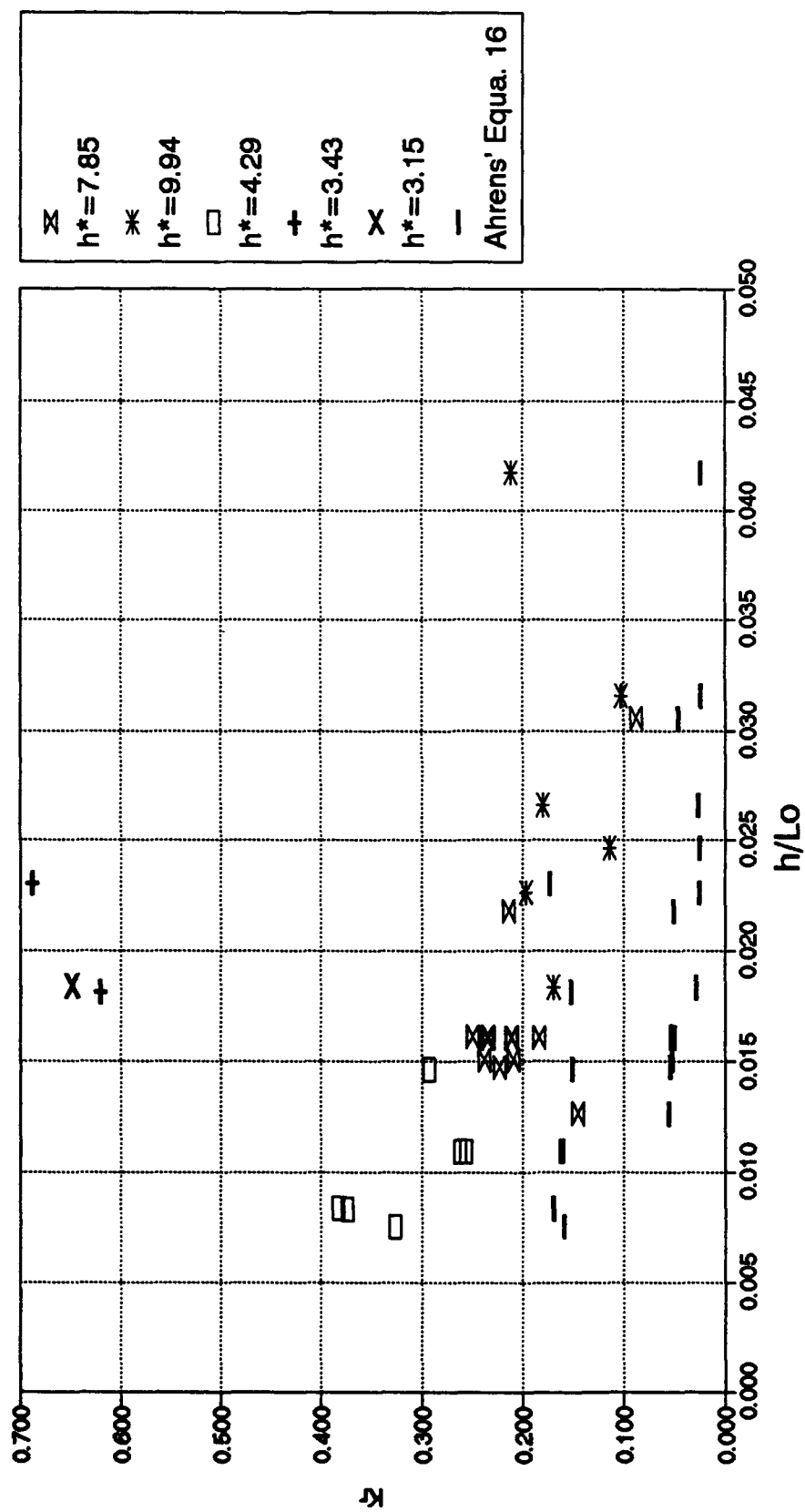


Figure 4.3 Reflection coefficient versus dimensionless depth for existing condition (relative depth,  $h^*$ , is non-dimensionalized by pipe diameter)

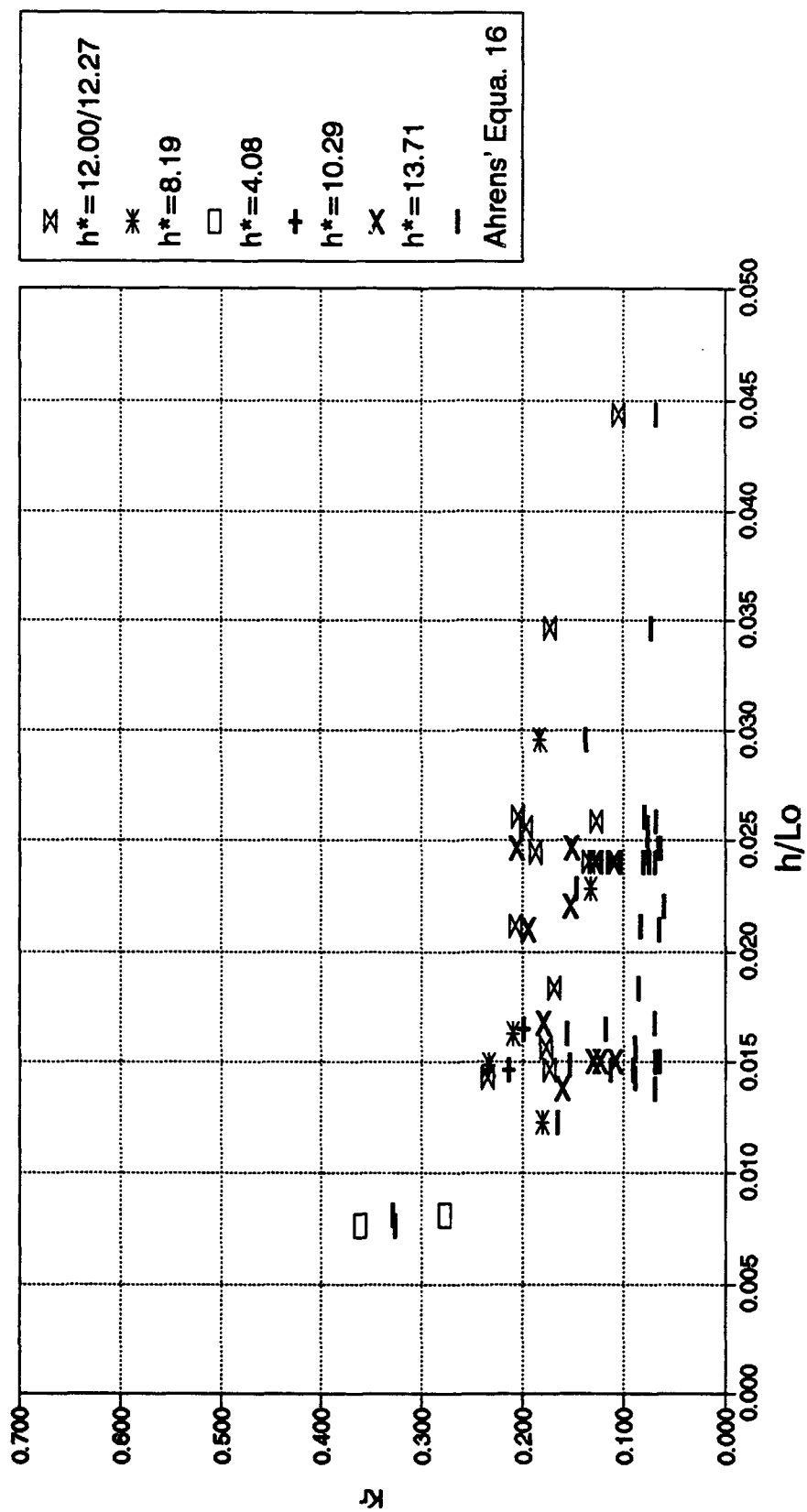


Figure 4.4 Reflection coefficient versus dimensionless depth for proposed armoring (relative depth,  $h^*$ , is non-dimensionalized by pipe diameter)

$$K_r = \exp \left[ c_1 \left( \frac{d_s}{L_p} \right) + \frac{c_2}{(h_c/d_s)} + c_3 \left( \frac{A_t}{h_c^2} \right) + c_4 \left( \frac{F}{H_{mo}} \right) \right]$$

where;       $c_1 = -6.774$                        $c_3 = -0.0860$   
                   $c_2 = -0.293$                        $c_4 = +0.0833$

and;       $d_s$  = Water depth at toe of breakwater

$L_p$  = Airy wave length

$h_c$  = Crest height of breakwater

$A_t$  = Cross-sectional area of the breakwater

$F$  = Freeboard of the structure

$H_{mo}$  = Incident zero-moment wave height

This expression is plotted as Ahrens' Equation 16 on each graph for comparison.

In each phase of testing, the reflection coefficients obtained from analysis of the recorded data were grouped reasonably well but were considerably higher than those calculated from Ahrens' formula. One explanation for this difference is that a portion of the transmitted wave energy which was reflected from the beach slope at the end of the wave channel was again transmitted through the model to appear as additional reflected wave energy from the model. The data do demonstrate that longer waves, lower  $h/L_o$ , experience greater reflection. This is consistent with the observed behavior of other coastal structures as well.

Wave transmission coefficients for the model are similarly presented in Figures 4.5 and 4.6, and are compared to Ahrens' expression for wave

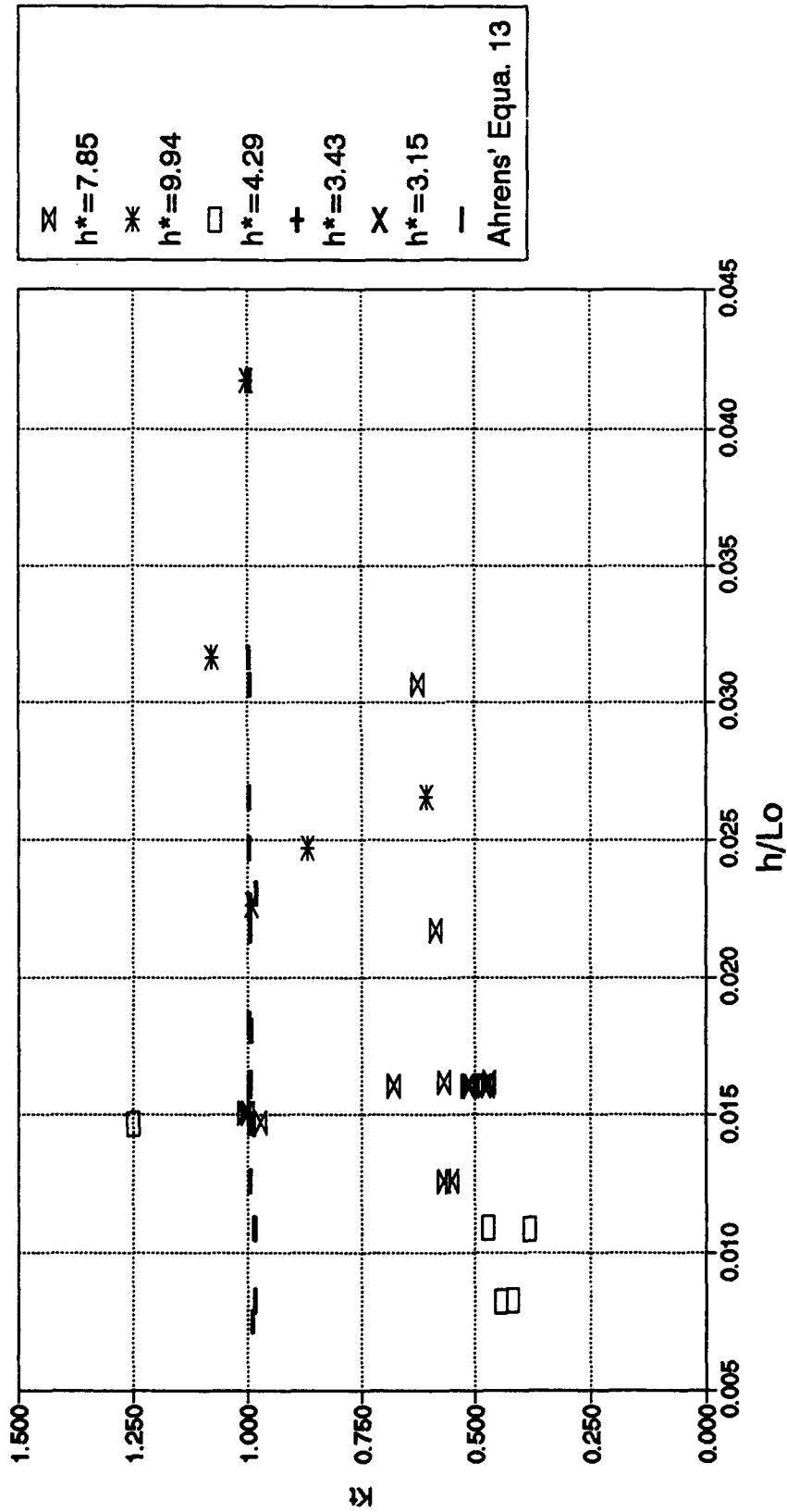


Figure 4.5 Transmission coefficient versus dimensionless depth for existing condition (relative depth,  $h^*$ , is non-dimensionalized by pipe diameter)

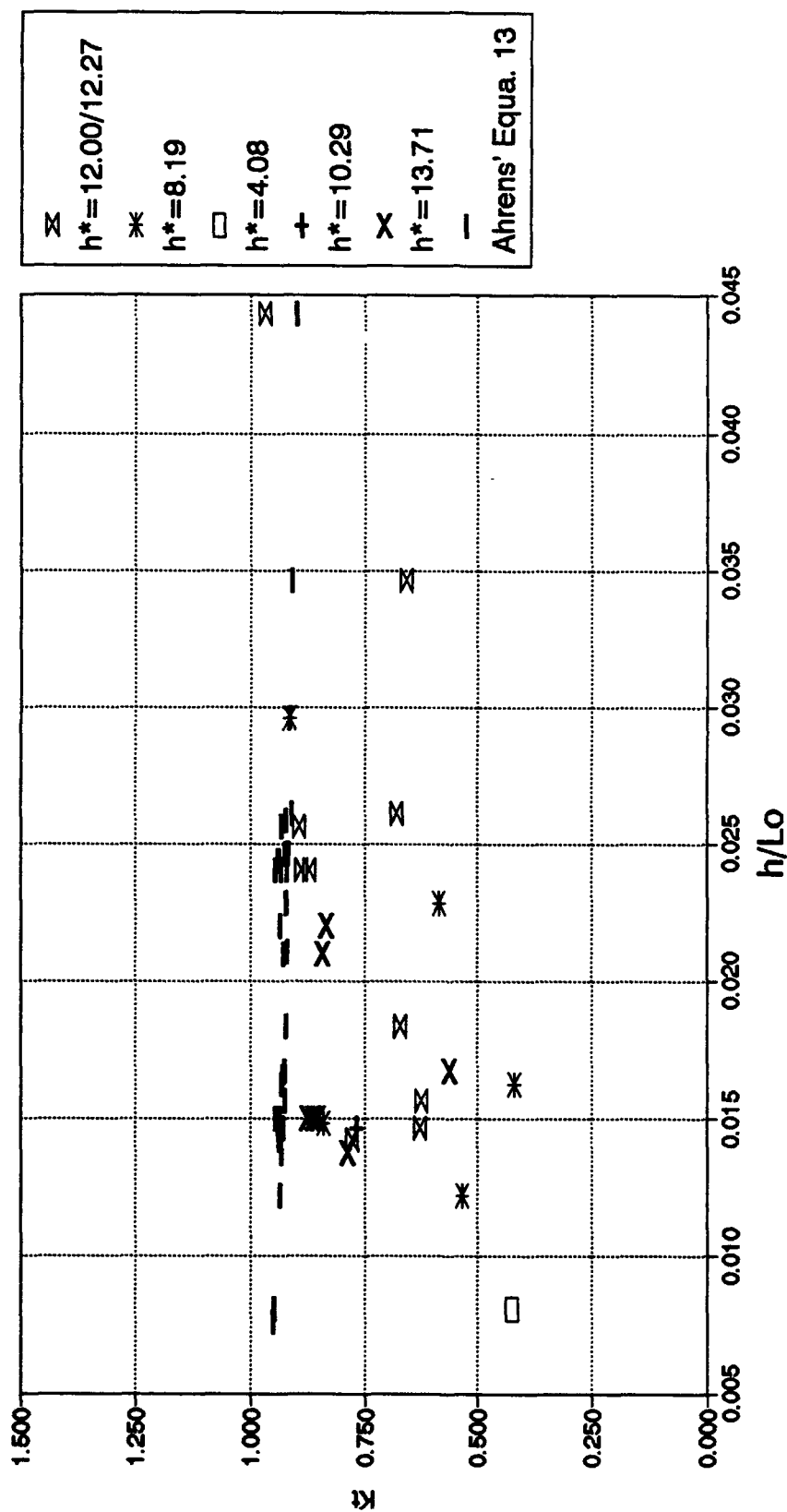


Figure 4.6 Transmission coefficient versus dimensionless depth for proposed armoring  
(relative depth,  $h^*$ , is non-dimensionalized by pipe diameter)

transmission through a reef breakwater. Ahrens' wave transmission coefficient (Ahrens, 1987) is plotted as Ahrens' Equation 13 on each graph and is given by:

$$K_t = \frac{1.0}{1.0 + \left(\frac{h_c}{d_s}\right)^{c_1} \left(\frac{A_t}{d_s L_p}\right)^{c_2} \exp \left[ c_3 \left(\frac{F}{H_{mo}}\right) + c_4 \left(\frac{A_t^{3/2}}{d_{50}^2 L_p}\right) \right]}$$

where;  $c_1 = 1.188$   $c_3 = 0.529$   
 $c_2 = 0.261$   $c_4 = 0.00551$

and;  $h_c$  = Crest height of breakwater  
 $d_s$  = Water depth at toe of breakwater  
 $A_t$  = Cross-sectional area of the breakwater  
 $L_p$  = Airy wave length  
 $F$  = Freeboard of the breakwater  
 $H_{mo}$  = Incident zero-moment wave height  
 $d_{50}$  = typical dimension of the median stone

Transmission coefficients were calculated from the results of analysis using the expression:

$$K_t = H_{mo}(\text{transmitted}) / H_{mo}(\text{incident})$$

where the  $H_{mo}$  quantities are evaluated in Tables 4.3 and 4.4. In each phase of testing, the transmission coefficients obtained from analysis of the recorded data were grouped reasonably well and were in a range to be expected for wave transmission under the given test conditions. In both cases, Ahrens' expression



plotted near unity for every test run, which indicates that his expression is not well conditioned for this set of data. The recorded data imply smaller transmission for longer waves, a result which is consistent with greater reflection being observed for longer waves. The longer waves also experienced greater losses due to breaking on the structure, thereby reducing the transmission coefficient.

Horizontal velocity near the toe of the seaward side of the model is non-dimensionalized and plotted versus non-dimensional water depth in Figures 4.7 and 4.8. Dean (1984) provides theoretical velocities for Case A (25% of the breaking wave height) and Case D (full breaking wave height), which are plotted for comparison. Since the velocities determined from analysis of the recorded wave data are zero-moment height or double-amplitude velocities, the non-dimensionalized values from Dean's tables are doubled to conform to the same definition. Similar trends are observed between the theoretical predictions and the measured dimensionless velocity. In general, steeper waves experience greater decay of velocity with depth. This is demonstrated in Case D lying below Case A and the data from Gauge 4 (model center) occurring near the minimum of the recorded results. Similarly, the transmitted data yields the larger values of dimensionless velocity for minimum values of wave height.

#### 4.5 Selective Removal of Rock

During the first phase of testing, the model incurred severe wave damage and was rebuilt in the same configuration to complete that phase of testing. Post-test rock samples were taken from both sides of the model and from the rock that

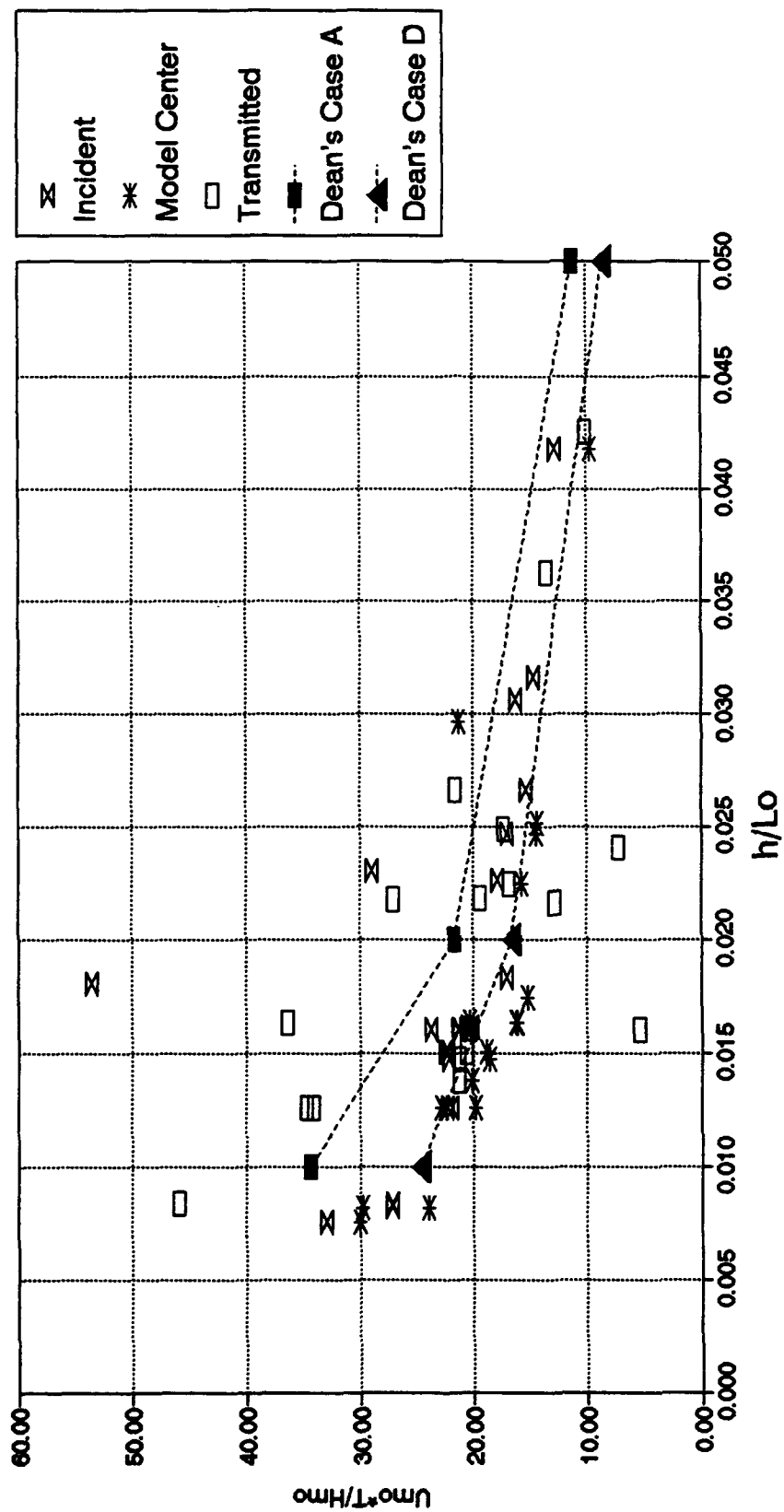


Figure 4.7 Dimensionless horizontal velocity versus dimensionless depth for existing condition

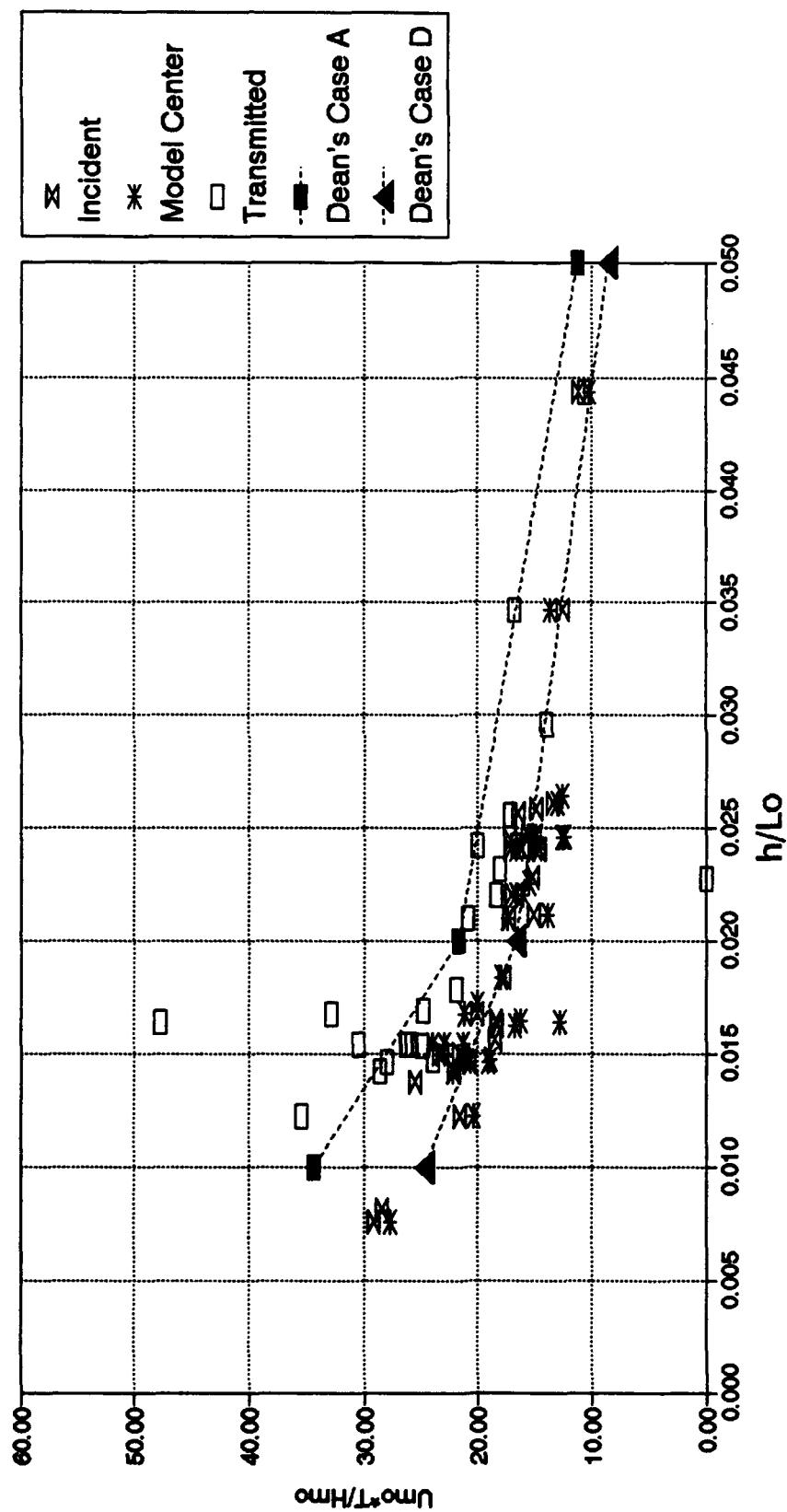


Figure 4.8 Dimensionless horizontal velocity versus dimensionless depth for proposed armoring

was washed down the wave channel during testing. Figure 4.9 provides post-test sample rock distributions taken upon completion of the first phase of testing. Note that the material from the leeward side of the structure is considerably heavier than that from the seaward side, suggesting selective removal of the smaller armor stone. The sample of material washed-out from the leeward side is somewhat less coarse than the material on the seaward slope. It is likely that the fines from the washed-out material are totally removed from the system through transport up the beach and settlement through the gaps in the beach slabs.

After the model was re-configured and tested during the second phase of the project, post-test rock samples were again taken from both sides of the model and from the rock that was washed down the wave channel during testing. Figure 4.10 provides post-test sample rock distributions taken upon completion of the second phase of testing. There is much less evidence of selective removal of fines from the Class A armor stone than from the existing material. The leeward slope material and the washed-out material are slightly more coarse than the armor material on the seaward side.

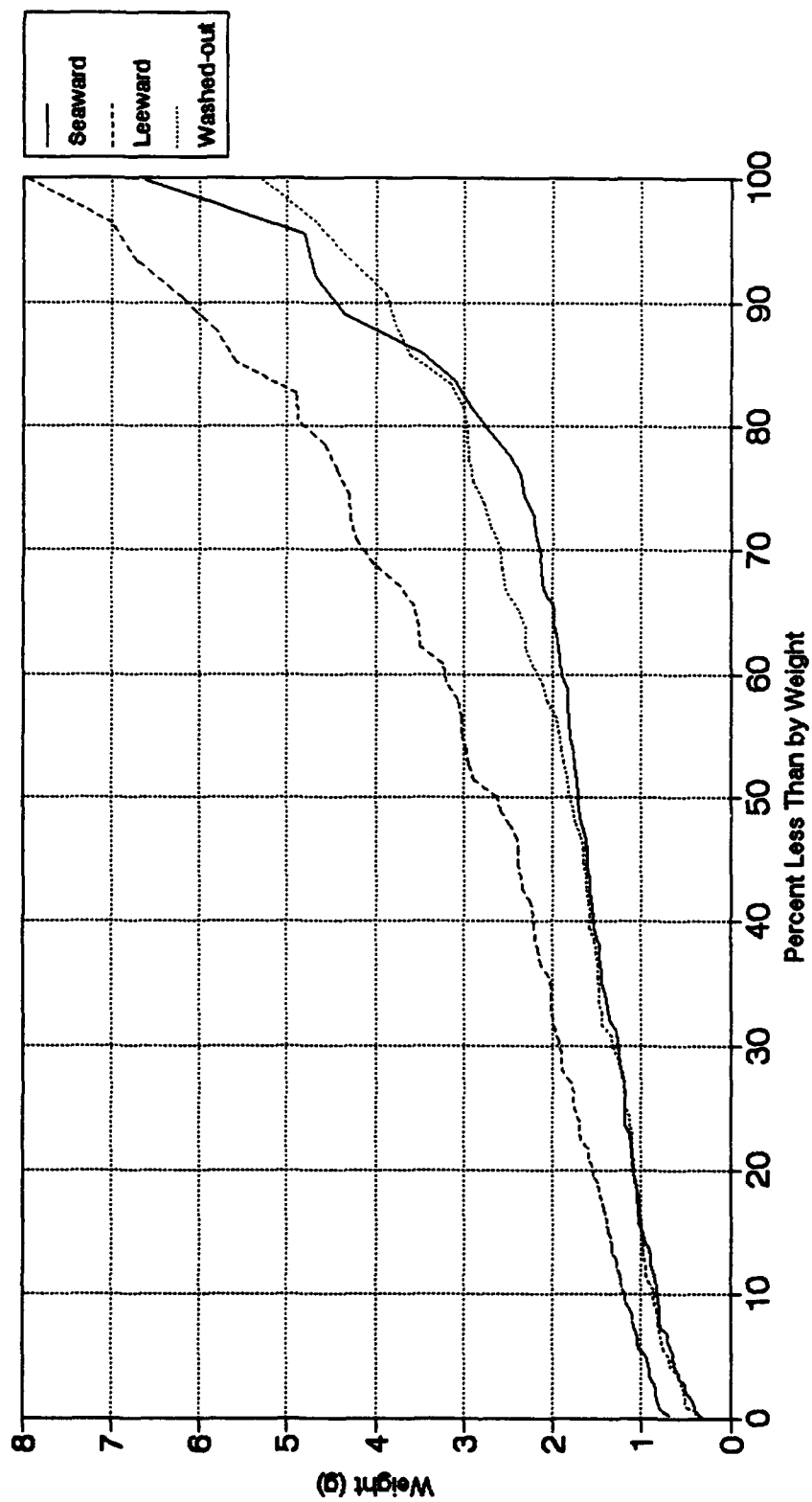


Figure 4.9 Existing condition post-test rock distributions

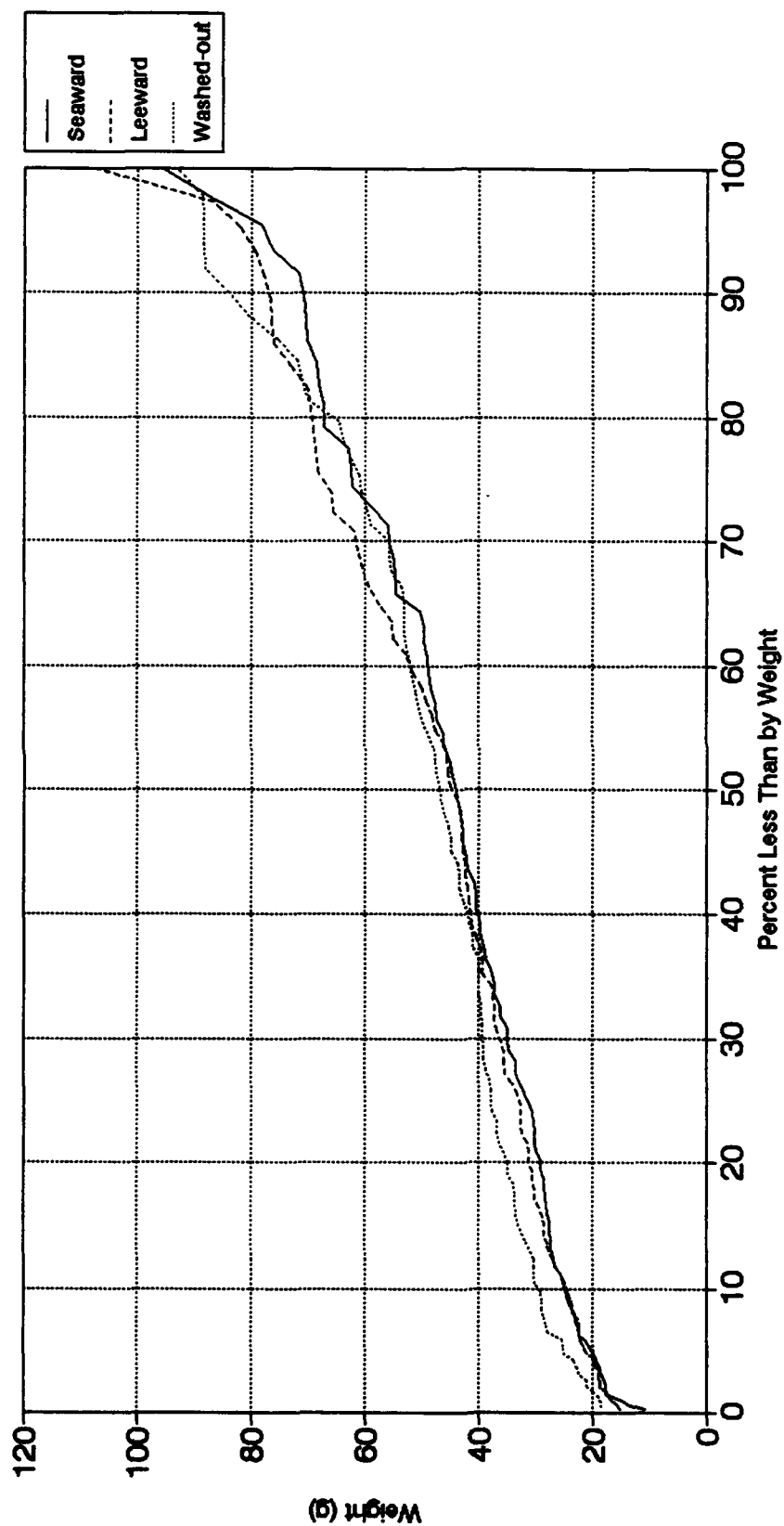


Figure 4.10 Proposed armorng post-test rock distributions

## 5.0 SUMMARY AND CONCLUSIONS

### 5.1 Test Summary

This report summarizes the results of 64 laboratory tests conducted to determine the stability of armor rock covering an existing sewer outfall for the city of Goleta, California. The tests were conducted at Oregon State University's O.H. Hinsdale Wave Research Laboratory in Corvallis Oregon. The testing consisted of two phases: phase one modeled the existing condition of the outfall and phase two modeled the outfall with proposed armor rock to provide additional stability. Model rock was obtained from local quarries to reproduce the size distributions of existing, and proposed armor rock. Wave tests were conducted in prototype water depths ranging from 15 to 45 feet at scale ratios ranging from 4.52 to 15.5. Prototype wave conditions included both random and monochromatic waves with periods ranging from 14 to 22 seconds and wave heights ranging from 4 to 25 feet. Wave data were taken utilizing seven resistive wave gages, two acoustic current meters and a sonic wave profiler. In addition, the test runs were video recorded from two underwater and one above water locations. Model test conditions for each wave test run were presented in tabular form. Prototype tabular summaries were provided. Non-dimensional graphical summaries were presented and discussed.

## 5.2 Results Summary

Wave conditions were analyzed by employing Fourier analysis to determine sine and cosine amplitudes of each frequency component, which were interpreted to separate the incident and reflected waves. A complete set of the results of analysis is presented in the Appendix. Results are summarized in tabular form at both model and prototype scale. Significant hydrodynamic properties were presented graphically in non-dimensional form and compared to theoretical or empirical models. Similar trends were observed in both monochromatic and random wave tests. Breaking wave heights were found to be within 75% of the theoretical maximum wave height, a result consistent with other experiments. Reflection coefficients were found to decrease and transmission coefficients increase with increases in relative water depth. Velocities, non-dimensionalized with respect to wave height and period, were found to decrease with increasing wave steepness and increasing relative depth. Similar hydrodynamic trends were noted in the existing and proposed armor configurations. Selective removal of fines from the rock armor occurred during the wave tests. The proposed armor experience less removal of fines than the existing armor.



## REFERENCES

- Ahrens, J.P. (1987). "Characteristics of reef breakwaters," Technical report CERC-87-17, Coastal Engineering Research Center, U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS.
- Dean, R.G. (1974). "Evaluation and development of water wave theories for engineering applications," Special report No. 1, U.S. Army Corps of Engineers Coastal Engineering Research Station, Fort Belvoir, VA.
- Dibble, T.L. and Sollitt, C.K. "New designs for acoustic and resistive wave profilers," IAHR Workshop of instrumentation for hydraulics laboratories, August 16-18, 1989, Burlington, Ontario.
- Goda, Y. (1985). Random seas and design of maritime structures. Tokyo: University of Tokyo Press.
- Sollitt, C.K. and D.H. DeBok. "Large scale model tests of placed stone breakwaters," ASCE Proceedings of the fifteenth coastal engineering conference, July 11-17, 1976, Honolulu, Hawaii.
- Shore protection manual. (1984) 4th Ed. Coastal Engineering Research Station, U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS

APPENDIX  
RESULTS OF ANALYSIS

Test Identification ..... : s131-01

Reflection Coefficients for Data file ..... : s131-01.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 3.33840E-02  
Maximum smoothed value ..... = 1.13518E+00  
First moment ..... = 5.0822E-03  
Second moment ..... = 9.0571E-04  
I1no ..... = .731  
Tp ..... = 5.278

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.0994E-03  
Maximum smoothed value ..... = 4.0256E-02  
First moment ..... = 1.5441E-04  
Second moment ..... = 2.4088E-05  
I1no ..... = .133  
Tp ..... = .181

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 3.2545E-02  
Maximum smoothed value ..... = 1.09050E+00  
First moment ..... = 3.1406E-03  
Second moment ..... = 1.0464E-03  
I1no ..... = .722  
Tp ..... = 5.378

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 9.3489E-04  
Maximum smoothed value ..... = 2.9202E-02  
First moment ..... = 1.5440E-04  
Second moment ..... = 8.8318E-05  
I1no ..... = .122  
Tp ..... = .169

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 3.0738E-02  
Maximum smoothed value ..... = 1.1880E+00  
First moment ..... = 4.7189E-03  
Second moment ..... = 6.5328E-04  
I1no ..... = .701  
Tp ..... = 5.278

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.2492E-03  
Maximum smoothed value ..... = 4.7998E-02  
First moment ..... = 1.8398E-04  
Second moment ..... = 2.7508E-05  
I1no ..... = .141  
Tp ..... = .202

Test Identification ..... : s131-01

Reflection Coefficients for Data file ..... : s131-01.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 2.9014E-02  
Maximum smoothed value ..... = 5.8639E-01  
First moment ..... = 6.6479E-03  
Second moment ..... = 1.7870E-03  
I1no ..... = .681  
Tp ..... = 2.560

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.5188E-03  
Maximum smoothed value ..... = 5.4575E-02  
First moment ..... = 2.1755E-04  
Second moment ..... = 3.5014E-05  
I1no ..... = .156  
Tp ..... = .229

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 3.2084E-02  
Maximum smoothed value ..... = 6.0272E-01  
First moment ..... = 6.3581E-03  
Second moment ..... = 1.9149E-03  
I1no ..... = .716  
Tp ..... = 2.560

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.0280E-03  
Maximum smoothed value ..... = 3.0125E-02  
First moment ..... = 1.5188E-04  
Second moment ..... = 6.5007E-05  
I1no ..... = .128  
Tp ..... = .179

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.4836E-02  
Maximum smoothed value ..... = 5.7143E-01  
First moment ..... = 2.1897E-03  
Second moment ..... = 3.2535E-04  
I1no ..... = .487  
Tp ..... = 5.278

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.6154E-03  
Maximum smoothed value ..... = 6.1825E-02  
First moment ..... = 2.3965E-04  
Second moment ..... = 3.8020E-05  
I1no ..... = .161  
Tp ..... = .330

Test Identification ..... : s131-01

Run Identification ..... : s131-01

Raw Data File ..... : s131-01.wrl  
Date of test ..... : 11-FEB-1992 10:10:30

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 4.3415E-02  
Maximum smoothed value ..... = 9.6338E-01  
First moment ..... = 1.3384E-02  
Second moment ..... = 5.3985E-03  
I1no ..... = .833  
Tp ..... = 5.224

\*\*\* Current Meter Summary Seward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 4.5815E-03  
Maximum smoothed value ..... = 4.1771E-02  
First moment ..... = 1.6642E-03  
Second moment ..... = 8.6612E-04  
I1no ..... = .271  
Tp ..... = 5.224

\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 4.3410E-01  
Maximum smoothed value ..... = 1.9193E+01  
First moment ..... = 1.6328E-01  
Second moment ..... = 5.2465E-02  
I1no ..... = 3.235  
Tp ..... = 5.224

\*\*\* Current Meter Summary Loward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 3.7288E-03  
Maximum smoothed value ..... = 4.6381E-02  
First moment ..... = 1.2491E-03  
Second moment ..... = 6.0942E-04  
I1no ..... = .244  
Tp ..... = 5.333

\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 3.8626E-01  
Maximum smoothed value ..... = 7.6894E+00  
First moment ..... = 1.1971E-01  
Second moment ..... = 4.3388E-02  
I1no ..... = 2.486  
Tp ..... = 5.278

Test Identification ..... : 1131-02

Reflection Coefficients for Data file ..... : 1131-02.wrl

Water Depth (feet) ..... = 2.29  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 5.9491E-02  
Maximum smoothed value ..... = 1.90031E+00  
First moment ..... = 9.6830E-03  
Second moment ..... = 1.8903E-03  
IIRMS ..... = .976  
Tp ..... = 5.278

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.31541E-03  
Maximum smoothed value ..... = 6.5889E-02  
First moment ..... = 4.7037E-04  
Second moment ..... = 1.10841E-04  
IIRMS ..... = .201  
Reflection coefficient ..... = .206  
\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 6.2004E-02  
Maximum smoothed value ..... = 1.4903E+00  
First moment ..... = 1.5968E-02  
Second moment ..... = 7.7573E-03  
IIRMS ..... = 1.045  
Tp ..... = 5.278

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 3.0228E-03  
Maximum smoothed value ..... = 2.80577E-01  
First moment ..... = 1.4478E-03  
Second moment ..... = 1.00761E-03  
IIRMS ..... = .220  
Reflection coefficient ..... = .211  
\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 5.0290E-02  
Maximum smoothed value ..... = 1.9441E+00  
First moment ..... = 7.3169E-03  
Second moment ..... = 1.0677E-03  
IIRMS ..... = .497  
Tp ..... = 5.278

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.5995E-03  
Maximum smoothed value ..... = 8.6328E-02  
First moment ..... = 3.3769E-04  
Second moment ..... = 5.0819E-05  
IIRMS ..... = .172  
Reflection coefficient ..... = .214

Test Identification ..... : 1131-02

Reflection Coefficients for Data file ..... : 1131-02.wrl

Water Depth (feet) ..... = 2.29  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 5.7654E-02  
Maximum smoothed value ..... = 1.73057E+00  
First moment ..... = 1.5974E-02  
Second moment ..... = 4.8006E-03  
IIRMS ..... = .960  
Tp ..... = 2.547

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.4593E-03  
Maximum smoothed value ..... = 7.6219E-02  
First moment ..... = 4.1235E-04  
Second moment ..... = 8.3984E-05  
IIRMS ..... = .198  
Reflection coefficient ..... = .207  
\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.4421E-01  
Maximum smoothed value ..... = 1.8374E+00  
First moment ..... = 1.9843E-02  
Second moment ..... = 6.9148E-03  
IIRMS ..... = 1.091  
Tp ..... = 2.586

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.1072E-03  
Maximum smoothed value ..... = 4.2415E-02  
First moment ..... = 8.6075E-04  
Second moment ..... = 4.6990E-04  
IIRMS ..... = .184  
Reflection coefficient ..... = .168  
\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.5292E-02  
Maximum smoothed value ..... = 5.9560E-01  
First moment ..... = 2.3036E-03  
Second moment ..... = 3.4509E-04  
IIRMS ..... = .498  
Tp ..... = 5.278

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.1229E-03  
Maximum smoothed value ..... = 8.0593E-02  
First moment ..... = 3.1544E-04  
Second moment ..... = 4.7580E-05  
IIRMS ..... = .184  
Reflection coefficient ..... = .370

Test Identification ..... : 1131-02

Run Identification ..... : 1131-02

Raw Data File ..... : 1131-02.wrl  
Date of test ..... : 11-FEB-1992 10:29:41

\*\*\* Wave Gauge 4 Summary \*\*\*  
\*\*\* Total Wave Energy \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.00839E-01  
Maximum smoothed value ..... = 1.3267E+00  
First moment ..... = 4.0379E-02  
Second moment ..... = 2.1650E-02  
IIRMS ..... = 1.270  
Tp ..... = 5.224

\*\*\* Current Meter Summary Seaward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 9.63847E-01  
Maximum smoothed value ..... = 1.96031E+01  
First moment ..... = 3.2635E-01  
Second moment ..... = 1.4115E-01  
IIRMS ..... = 3.927  
Tp ..... = 5.224

\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.19431E-02  
Maximum smoothed value ..... = 1.2921E-01  
First moment ..... = 4.7118E-03  
Second moment ..... = 2.5745E-03  
IIRMS ..... = .437  
Tp ..... = 1.141

\*\*\* Current Meter Summary Luvward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 7.6024E-01  
Maximum smoothed value ..... = 1.0477E+01  
First moment ..... = 2.9147E-01  
Second moment ..... = 1.3362E-01  
IIRMS ..... = 3.488  
Tp ..... = 2.560

\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.0607E-02  
Maximum smoothed value ..... = 1.5149E-01  
First moment ..... = 4.2378E-03  
Second moment ..... = 2.2155E-03  
IIRMS ..... = .412  
Tp ..... = 2.573

Test Identification ..... : a131-03

Reflection Coefficient for Data File ..... : a131-03.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficient ... = 1 2 3  
Distance between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 5.8953E-02  
Maximum smoothed value ..... = 1.91063E+00  
First moment ..... = 9.49173E-03  
Second moment ..... = 1.82377E-03  
Hmo ..... = .972  
Tp ..... = 5.278

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.8161E-03  
Maximum smoothed value ..... = 7.8726E-02  
First moment ..... = 5.49393E-04  
Second moment ..... = 1.30932E-04  
Hmo ..... = .212  
Tp ..... = .218

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 4.7002E-02  
Maximum smoothed value ..... = 1.49338E+00  
First moment ..... = 1.53348E-03  
Second moment ..... = 7.55618E-03  
Hmo ..... = 1.028  
Tp ..... = 5.278

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 3.2123E-03  
Maximum smoothed value ..... = 2.8604E-01  
First moment ..... = 1.4643E-03  
Second moment ..... = 1.0099E-03  
Hmo ..... = .227  
Tp ..... = .218

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 5.0347E-02  
Maximum smoothed value ..... = 1.94662E+00  
First moment ..... = 7.3212E-03  
Second moment ..... = 1.0693E-03  
Hmo ..... = .898  
Tp ..... = 5.278

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.4473E-03  
Maximum smoothed value ..... = 9.2088E-02  
First moment ..... = 3.9558E-04  
Second moment ..... = 5.4153E-05  
Hmo ..... = .198  
Tp ..... = .220

\*\*\* Reflection coefficient \*\*\*

Test Identification ..... : a131-03

Reflection Coefficient for Data File ..... : a131-03.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficient ... = 5 6 7  
Distance between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 5.3388E-02  
Maximum smoothed value ..... = 1.56992E+00  
First moment ..... = 1.46318E-02  
Second moment ..... = 4.36539E-03  
Hmo ..... = .926  
Tp ..... = 2.560

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.82841E-03  
Maximum smoothed value ..... = 8.14205E-02  
First moment ..... = 5.06610E-04  
Second moment ..... = 1.11096E-04  
Hmo ..... = .213  
Tp ..... = .230

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 7.10897E-02  
Maximum smoothed value ..... = 1.6680E+00  
First moment ..... = 1.9797E-02  
Second moment ..... = 7.42083E-03  
Hmo ..... = 1.067  
Tp ..... = 2.547

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.28769E-03  
Maximum smoothed value ..... = 4.12981E-02  
First moment ..... = 8.95259E-04  
Second moment ..... = 4.73960E-04  
Hmo ..... = .191  
Tp ..... = .179

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 1.56754E-02  
Maximum smoothed value ..... = 6.01812E-01  
First moment ..... = 2.32251E-03  
Second moment ..... = 3.47574E-04  
Hmo ..... = .501  
Tp ..... = 5.224

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.2398E-03  
Maximum smoothed value ..... = 8.5184E-02  
First moment ..... = 3.32880E-04  
Second moment ..... = 5.02142E-05  
Hmo ..... = .189  
Tp ..... = .378

\*\*\* Reflection coefficient \*\*\*

Test Identification ..... : a131-03

Run Identification ..... : a131-03

Raw Data File ..... : a131-03.wrl  
Date of test ..... : 11-FEB-1992 10:51:33

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 1.01609E-01  
Maximum smoothed value ..... = 1.34899E+00  
First moment ..... = 4.10743E-02  
Second moment ..... = 2.19563E-02  
Hmo ..... = 1.275  
Tp ..... = 5.224

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 9.64365E-01  
Maximum smoothed value ..... = 1.96419E+01  
First moment ..... = 3.22693E-01  
Second moment ..... = 1.41263E-01  
Hmo ..... = 3.928  
Tp ..... = 5.224

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 1.17400E-02  
Maximum smoothed value ..... = 1.27944E-01  
First moment ..... = 4.49702E-03  
Second moment ..... = 2.4327E-03  
Hmo ..... = .434  
Tp ..... = 1.741

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 7.60795E-01  
Maximum smoothed value ..... = 1.03142E+01  
First moment ..... = 2.93981E-01  
Second moment ..... = 1.36157E-01  
Hmo ..... = 3.488  
Tp ..... = 2.560

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 9.51010E-03  
Maximum smoothed value ..... = 1.22992E-01  
First moment ..... = 3.83660E-03  
Second moment ..... = 2.06610E-03  
Hmo ..... = .360  
Tp ..... = 2.599

Test Identification ..... : a131-04

Reflection Coefficients for Data file ..... : a131-04.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficients .. = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in bores smooth ..... = 13  
Total smoothed energy ..... = 6.39791E-02  
Maximum smoothed value ..... = 2.02772E+00  
First moment ..... = 1.06274E-02  
Second moment ..... = 2.1303E-03  
Hlms ..... = 1.012  
Tp ..... = 5.278

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 3.70317E-03  
Maximum smoothed value ..... = 8.27034E-03  
First moment ..... = 7.7885E-04  
Second moment ..... = 1.9320E-04  
Hlms ..... = .243  
Tp ..... = .241

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in bores smooth ..... = 13  
Total smoothed energy ..... = 7.43369E-02  
Maximum smoothed value ..... = 1.51948E+00  
First moment ..... = 1.90189E-02  
Second moment ..... = 9.46841E-03  
Hlms ..... = 1.091  
Tp ..... = 5.224

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 4.04570E-03  
Maximum smoothed value ..... = 3.57519E-01  
First moment ..... = 2.01008E-03  
Second moment ..... = 1.39793E-03  
Hlms ..... = .254  
Tp ..... = .233

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in bores smooth ..... = 13  
Total smoothed energy ..... = 5.25179E-02  
Maximum smoothed value ..... = 2.02872E+00  
First moment ..... = 7.63763E-03  
Second moment ..... = 1.11008E-03  
Hlms ..... = .917  
Tp ..... = 5.278

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.83252E-03  
Maximum smoothed value ..... = 1.06534E-01  
First moment ..... = 4.17598E-04  
Second moment ..... = 6.32408E-05  
Hlms ..... = .213  
Tp ..... = .223

Reflection coefficient ..... <-----

Test Identification ..... : a131-04

Reflection Coefficients for Data file ..... : a131-04.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficients .. = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in bores smooth ..... = 13  
Total smoothed energy ..... = 4.07003E-02  
Maximum smoothed value ..... = 1.08936E+00  
First moment ..... = 1.06262E-02  
Second moment ..... = 3.09660E-03  
Hlms ..... = .807  
Tp ..... = 2.626

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 5.09924E-03  
Maximum smoothed value ..... = 1.22330E-01  
First moment ..... = 1.27127E-03  
Second moment ..... = 3.61192E-04  
Hlms ..... = .286  
Tp ..... = .354

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in bores smooth ..... = 13  
Total smoothed energy ..... = 3.63405E-02  
Maximum smoothed value ..... = 5.96947E-01  
First moment ..... = 9.63374E-03  
Second moment ..... = 3.72480E-03  
Hlms ..... = .765  
Tp ..... = 2.626

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 1.41008E-03  
Maximum smoothed value ..... = 2.48400E-02  
First moment ..... = 3.48395E-04  
Second moment ..... = 1.59016E-04  
Hlms ..... = .151  
Tp ..... = .197

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in bores smooth ..... = 13  
Total smoothed energy ..... = 1.39420E-02  
Maximum smoothed value ..... = 5.36817E-01  
First moment ..... = 2.04023E-03  
Second moment ..... = 3.06842E-04  
Hlms ..... = .472  
Tp ..... = 5.278

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.09590E-03  
Maximum smoothed value ..... = 7.76590E-02  
First moment ..... = 3.21072E-04  
Second moment ..... = 5.11711E-05  
Hlms ..... = .183  
Tp ..... = .388

Reflection coefficient ..... <-----

Test Identification ..... : a131-04

Run Identification ..... : a131-04

Raw Data File ..... : a131-04.wrl  
Date of test ..... : 11-FEB-1992 11:38:56

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*

Number of points in bores smooth ..... = 13  
Total smoothed energy ..... = 1.2622E-01  
Maximum smoothed value ..... = 1.62095E+00  
First moment ..... = 5.42788E-02  
Second moment ..... = 3.04631E-02  
Hlms ..... = 1.418  
Tp ..... = 1.759

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*

Number of points in bores smooth ..... = 13  
Total smoothed energy ..... = 9.69746E-01  
Maximum smoothed value ..... = 1.87216E+01  
First moment ..... = 3.27595E-01  
Second moment ..... = 1.43957E-01  
Hlms ..... = 3.939  
Tp ..... = 5.278

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in bores smooth ..... = 13  
Total smoothed energy ..... = 1.11311E-02  
Maximum smoothed value ..... = 1.22342E-01  
First moment ..... = 4.34633E-03  
Second moment ..... = 2.42203E-03  
Hlms ..... = .422  
Tp ..... = 1.747

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*

Number of points in bores smooth ..... = 13  
Total smoothed energy ..... = 8.9007E-01  
Maximum smoothed value ..... = 1.23178E+01  
First moment ..... = 3.67494E-01  
Second moment ..... = 1.78446E-01  
Hlms ..... = 3.784  
Tp ..... = 2.639

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in bores smooth ..... = 13  
Total smoothed energy ..... = 2.07693E-02  
Maximum smoothed value ..... = 1.77743E-01  
First moment ..... = 7.22500E-03  
Second moment ..... = 3.76531E-03  
Hlms ..... = .576  
Tp ..... = 1.772

Test Identification ..... : s131-05

Reflection Coefficients for Data file ..... : s131-05.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 6.37793E-03  
Maximum smoothed value ..... = 2.00208E+00  
First moment ..... = 1.05817E-02  
Second moment ..... = 2.11818E-03  
Hmo ..... = 1.010  
Tp ..... = 5.278

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 3.46597E-03  
Maximum smoothed value ..... = 8.50901E-02  
First moment ..... = 7.30782E-04  
Second moment ..... = 1.86281E-04  
Hmo ..... = .243  
Tp ..... = .243

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 7.47715E-02  
Maximum smoothed value ..... = 1.51318E+00  
First moment ..... = 1.91008E-02  
Second moment ..... = 9.46308E-03  
Hmo ..... = 1.094  
Tp ..... = 5.278

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 4.01094E-03  
Maximum smoothed value ..... = 3.42574E-01  
First moment ..... = 1.91493E-03  
Second moment ..... = 1.34883E-03  
Hmo ..... = .254  
Tp ..... = .232

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 5.21228E-02  
Maximum smoothed value ..... = 2.02201E+00  
First moment ..... = 7.61478E-03  
Second moment ..... = 1.11313E-03  
Hmo ..... = .915  
Tp ..... = 5.278

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.90244E-03  
Maximum smoothed value ..... = 1.00994E-01  
First moment ..... = 4.28033E-04  
Second moment ..... = 6.49798E-05  
Hmo ..... = .215  
Tp ..... = .235

Test Identification ..... : s131-05

Reflection Coefficients for Data file ..... : s131-05.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 4.23709E-02  
Maximum smoothed value ..... = 1.14731E+00  
First moment ..... = 1.1362E-02  
Second moment ..... = 3.23776E-03  
Hmo ..... = .823  
Tp ..... = 2.586

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 5.3819E-03  
Maximum smoothed value ..... = 1.28667E-01  
First moment ..... = 1.33801E-03  
Second moment ..... = 3.80892E-04  
Hmo ..... = .293  
Tp ..... = .356

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 3.75892E-02  
Maximum smoothed value ..... = 6.16795E-01  
First moment ..... = 9.9532E-03  
Second moment ..... = 3.83178E-03  
Hmo ..... = .776  
Tp ..... = 2.586

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.43598E-03  
Maximum smoothed value ..... = 2.55359E-02  
First moment ..... = 3.53833E-04  
Second moment ..... = 1.61483E-04  
Hmo ..... = .152  
Tp ..... = .195

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.41219E-02  
Maximum smoothed value ..... = 5.44188E-01  
First moment ..... = 2.06801E-03  
Second moment ..... = 3.10580E-04  
Hmo ..... = .475  
Tp ..... = 5.278

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.18428E-03  
Maximum smoothed value ..... = 8.1470E-02  
First moment ..... = 3.33078E-04  
Second moment ..... = 5.27181E-05  
Hmo ..... = .187  
Tp ..... = .393

Test Identification ..... : s131-05

Run Date File ..... : s131-05.wrl

Date of test ..... : 11-FEB-1992 11:58:39

\*\*\* Wave Gauge 4 Summary \*\*\*  
\*\*\* Total Wave Energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.28788E-01  
Maximum smoothed value ..... = 1.69408E+00  
First moment ..... = 5.89508E-02  
Second moment ..... = 3.13902E-02  
Hmo ..... = 1.435  
Tp ..... = 1.753

\*\*\* Current Meter Summary Seaward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 9.63566E-01  
Maximum smoothed value ..... = 1.86218E+01  
First moment ..... = 3.26345E-01  
Second moment ..... = 1.43850E-01  
Hmo ..... = 3.926  
Tp ..... = 5.278

\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 9.70905E-03  
Maximum smoothed value ..... = 1.1287E-01  
First moment ..... = 4.02841E-03  
Second moment ..... = 2.31641E-03  
Hmo ..... = .394  
Tp ..... = 1.772

\*\*\* Current Meter Summary Leeward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 9.22397E-01  
Maximum smoothed value ..... = 1.28908E+01  
First moment ..... = 3.82138E-01  
Second moment ..... = 1.89381E-01  
Hmo ..... = 3.842  
Tp ..... = 2.586

\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 2.15196E-02  
Maximum smoothed value ..... = 2.09066E-01  
First moment ..... = 7.76631E-03  
Second moment ..... = 4.07560E-03  
Hmo ..... = .587  
Tp ..... = 2.560

Test Identification ..... : s131-06

Reflection Coefficients for Data file ..... : s131-06.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficients .. = 1 3 3  
Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 6.9491E-02  
Maximum smoothed value ..... = 1.9908E+00  
First moment ..... = 1.0040E-02  
Second moment ..... = 1.8580E-03  
Hsno ..... = 1.847  
Tp ..... = 5.953

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 9.6079E-04  
Maximum smoothed value ..... = 2.4687E-03  
First moment ..... = 1.9332E-04  
Second moment ..... = 5.2073E-05  
Hsno ..... = .124  
Tp ..... = .118  
\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 4.3721E-02  
Maximum smoothed value ..... = 5.5171E-01  
First moment ..... = 1.6054E-02  
Second moment ..... = 7.6793E-03  
Hsno ..... = .827  
Tp ..... = 3.000

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.9951E-03  
Maximum smoothed value ..... = 4.4793E-02  
First moment ..... = 1.6599E-03  
Second moment ..... = 6.2940E-04  
Hsno ..... = .179  
Tp ..... = .216  
\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 7.5378E-02  
Maximum smoothed value ..... = 2.0331E+00  
First moment ..... = 1.2818E-02  
Second moment ..... = 2.6188E-03  
Hsno ..... = 1.098  
Tp ..... = 5.953

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.2804E-03  
Maximum smoothed value ..... = 5.1778E-02  
First moment ..... = 4.9788E-04  
Second moment ..... = 1.2362E-04  
Hsno ..... = .191  
Tp ..... = .174

Test Identification ..... : s131-06

Reflection Coefficients for Data file ..... : s131-06.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficients .. = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 2.1809E-02  
Maximum smoothed value ..... = 4.9715E-01  
First moment ..... = 3.8578E-03  
Second moment ..... = 8.6142E-04  
Hsno ..... = .591  
Tp ..... = 5.953

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 7.2107E-04  
Maximum smoothed value ..... = 1.9866E-02  
First moment ..... = 1.7078E-04  
Second moment ..... = 4.8053E-05  
Hsno ..... = .107  
Tp ..... = .182  
\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 4.2921E-02  
Maximum smoothed value ..... = 5.2890E-01  
First moment ..... = 1.3720E-02  
Second moment ..... = 6.5687E-03  
Hsno ..... = .829  
Tp ..... = 2.008

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.3407E-03  
Maximum smoothed value ..... = 6.6647E-02  
First moment ..... = 1.4726E-03  
Second moment ..... = 9.2686E-04  
Hsno ..... = .194  
Tp ..... = .214  
\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 2.8107E-02  
Maximum smoothed value ..... = 5.8723E-01  
First moment ..... = 5.7945E-03  
Second moment ..... = 1.3885E-03  
Hsno ..... = .671  
Tp ..... = 2.977

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.9451E-03  
Maximum smoothed value ..... = 6.4085E-02  
First moment ..... = 5.1079E-04  
Second moment ..... = 1.4133E-04  
Hsno ..... = .176  
Tp ..... = .263

Test Identification ..... : s131-06

Run Identification ..... : s131-06

Raw Data File ..... : s131-06.wrl  
Date of test ..... : 11-FEB-1992 13:30:56

\*\*\* Wave Gauge 4 Summary \*\*\*  
\*\*\* Total Wave Energy \*\*\*  
Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 8.8034E-02  
Maximum smoothed value ..... = 1.2879E+00  
First moment ..... = 3.3593E-02  
Second moment ..... = 1.8725E-02  
Hsno ..... = 1.187  
Tp ..... = 5.953

\*\*\* Current Meter Summary Seaward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 9.7034E-01  
Maximum smoothed value ..... = 2.3072E+01  
First moment ..... = 2.8623E-01  
Second moment ..... = 1.2284E-01  
Hsno ..... = 3.940  
Tp ..... = 5.953

\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 8.9948E-03  
Maximum smoothed value ..... = 8.4312E-02  
First moment ..... = 3.6226E-03  
Second moment ..... = 2.1134E-03  
Hsno ..... = .379  
Tp ..... = 6.169

\*\*\* Current Meter Summary Leeward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 7.4105E-01  
Maximum smoothed value ..... = 1.5476E+01  
First moment ..... = 2.2866E-01  
Second moment ..... = 9.8078E-02  
Hsno ..... = 3.443  
Tp ..... = 5.953

\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 1.2844E-02  
Maximum smoothed value ..... = 1.2841E-01  
First moment ..... = 4.2401E-03  
Second moment ..... = 2.3206E-03  
Hsno ..... = .453  
Tp ..... = 6.095



Test Identification ..... : a131-07

Reflection Coefficients for Data file ..... : a131-07.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficients ... = 1 2 3  
Distance between channels in feet ..... = 7.00 2.50

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 6.72978E-02  
Maximum smoothed value ..... = 1.94631E+00  
First moment ..... = 9.0083E-03  
Second moment ..... = 1.83998E-03  
Ihno ..... = 1.008  
Tp ..... = 5.953

==== Reflected wave energy ====

Total smoothed energy ..... = 9.4725E-04  
Maximum smoothed value ..... = 2.8060E-02  
First moment ..... = 1.82284E-04  
Second moment ..... = 4.71358E-05  
Ihno ..... = .123  
Tp ..... = .119

==== Smoothed spectral densities for DL = 2.5 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 3.55124E-02  
Maximum smoothed value ..... = 5.53130E-01  
First moment ..... = 1.42927E-02  
Second moment ..... = 6.6816E-03  
Ihno ..... = .795  
Tp ..... = 3.030

==== Reflected wave energy ====

Total smoothed energy ..... = 1.78917E-03  
Maximum smoothed value ..... = 3.5711E-02  
First moment ..... = 9.3519E-04  
Second moment ..... = 5.4001E-04  
Ihno ..... = .169  
Tp ..... = .215

==== Smoothed spectral densities for DL = 9.5 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 7.3749E-02  
Maximum smoothed value ..... = 1.0021E+00  
First moment ..... = 1.5427E-02  
Second moment ..... = 2.5710E-03  
Ihno ..... = 1.066  
Tp ..... = 5.953

==== Reflected wave energy ====

Total smoothed energy ..... = 2.12791E-03  
Maximum smoothed value ..... = 4.7190E-02  
First moment ..... = 4.0778E-04  
Second moment ..... = 1.1303E-04  
Ihno ..... = .185  
Tp ..... = .170

Test Identification ..... : a131-07

Reflection Coefficients for Data file ..... : a131-07.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficients ... = 5 6 7  
Distance between channels in feet ..... = 7.00 3.00

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 2.26774E-02  
Maximum smoothed value ..... = 4.4745E-01  
First moment ..... = 4.3092E-03  
Second moment ..... = 1.0339E-03  
Ihno ..... = .602  
Tp ..... = 5.953

==== Reflected wave energy ====

Total smoothed energy ..... = 7.79517E-04  
Maximum smoothed value ..... = 3.1060E-02  
First moment ..... = 1.8492E-04  
Second moment ..... = 5.3796E-05  
Ihno ..... = .112  
Tp ..... = .185

==== Smoothed spectral densities for DL = 3.0 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 5.02817E-02  
Maximum smoothed value ..... = 7.7780E-01  
First moment ..... = 1.64290E-02  
Second moment ..... = 7.5401E-03  
Ihno ..... = .897  
Tp ..... = 2.024

==== Reflected wave energy ====

Total smoothed energy ..... = 2.6300E-03  
Maximum smoothed value ..... = 6.9421E-02  
First moment ..... = 1.5463E-03  
Second moment ..... = 9.7782E-04  
Ihno ..... = .206  
Tp ..... = .230

==== Smoothed spectral densities for DL = 10.0 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 2.8553E-02  
Maximum smoothed value ..... = 6.3779E-01  
First moment ..... = 6.1638E-03  
Second moment ..... = 1.5227E-03  
Ihno ..... = .676  
Tp ..... = 3.012

==== Reflected wave energy ====

Total smoothed energy ..... = 1.98607E-03  
Maximum smoothed value ..... = 6.4200E-02  
First moment ..... = 5.1402E-04  
Second moment ..... = 1.4002E-04  
Ihno ..... = .178  
Tp ..... = .264

Test Identification ..... : a131-07

Run Identification ..... : a131-07

Raw Data File ..... : a131-07.wrl  
Date of test ..... : 11-FEB-1992 13:51:20

==== Wave Group 4 Summary =====  
==== Total Wave Energy ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 9.26794E-02  
Maximum smoothed value ..... = 1.30284E+00  
First moment ..... = 3.5127E-02  
Second moment ..... = 2.0048E-02  
Ihno ..... = 1.218  
Tp ..... = 5.953

==== Current Meter Summary Seaward Gauge =====  
==== Horizontal Current Energy Channel 8 ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 9.8774E-01  
Maximum smoothed value ..... = 2.5207E+01  
First moment ..... = 2.9450E-01  
Second moment ..... = 1.27061E-01  
Ihno ..... = 3.975  
Tp ..... = 5.953

==== Vertical Current Energy Channel 9 ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 9.0017E-03  
Maximum smoothed value ..... = 1.00963E-01  
First moment ..... = 3.9158E-03  
Second moment ..... = 2.32307E-03  
Ihno ..... = .380  
Tp ..... = 1.533

==== Current Meter Summary Leeward Gauge =====  
==== Horizontal Current Energy Channel 10 ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 7.4371E-01  
Maximum smoothed value ..... = 1.4581E+01  
First moment ..... = 2.4407E-01  
Second moment ..... = 1.1021E-01  
Ihno ..... = 3.450  
Tp ..... = 5.885

==== Vertical Current Energy Channel 11 ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 9.90941E-03  
Maximum smoothed value ..... = 9.9192E-02  
First moment ..... = 3.8728E-03  
Second moment ..... = 2.22816E-03  
Ihno ..... = .398  
Tp ..... = 5.953

Test Identification ..... : 0131-08

Reflection Coefficients for Data file ..... : 0131-08.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficients .. = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 1.1445E-01  
Maximum smoothed value ..... = 2.47155E+00  
First moment ..... = 3.3187E-02  
Second moment ..... = 1.1192E-02  
Hsno ..... = 1.353  
Tp ..... = 2.207

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.0012E-02  
Maximum smoothed value ..... = 3.5791E-01  
First moment ..... = 3.5791E-03  
Second moment ..... = 1.3465E-03  
Hsno ..... = .402  
Tp ..... = .207

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 1.0400E-01  
Maximum smoothed value ..... = 1.5780E+00  
First moment ..... = 3.3561E-02  
Second moment ..... = 1.7539E-02  
Hsno ..... = 1.267  
Tp ..... = 4.531

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 7.1479E-03  
Maximum smoothed value ..... = 1.9790E-01  
First moment ..... = 4.0391E-03  
Second moment ..... = 3.0221E-03  
Hsno ..... = .338  
Tp ..... = .203

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 5.2045E-02  
Maximum smoothed value ..... = 2.0220E+00  
First moment ..... = 9.4379E-03  
Second moment ..... = 1.7172E-03  
Hsno ..... = .913  
Tp ..... = 4.531

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.4116E-03  
Maximum smoothed value ..... = 5.2101E-02  
First moment ..... = 2.5281E-04  
Second moment ..... = 4.5922E-05  
Hsno ..... = .150  
Tp ..... = .165

Test Identification ..... : 0131-08

Reflection Coefficients for Data file ..... : 0131-08.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficients .. = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 1.2741E-01  
Maximum smoothed value ..... = 4.0200E+00  
First moment ..... = 4.4619E-02  
Second moment ..... = 1.6093E-02  
Hsno ..... = 1.428  
Tp ..... = 2.207

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.1798E-02  
Maximum smoothed value ..... = 3.8964E-01  
First moment ..... = 4.2377E-03  
Second moment ..... = 1.5979E-03  
Hsno ..... = .434  
Tp ..... = .304

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 1.0759E-01  
Maximum smoothed value ..... = 2.3181E+00  
First moment ..... = 3.2876E-02  
Second moment ..... = 1.2483E-02  
Hsno ..... = 1.312  
Tp ..... = 2.207

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 4.3639E-03  
Maximum smoothed value ..... = 7.6250E-02  
First moment ..... = 1.2424E-03  
Second moment ..... = 5.3074E-04  
Hsno ..... = .264  
Tp ..... = .201

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 2.5903E-02  
Maximum smoothed value ..... = 1.0021E+00  
First moment ..... = 4.7387E-03  
Second moment ..... = 8.7756E-04  
Hsno ..... = .644  
Tp ..... = 4.531

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.3806E-03  
Maximum smoothed value ..... = 9.1484E-02  
First moment ..... = 4.3674E-04  
Second moment ..... = 8.0551E-05  
Hsno ..... = .195  
Tp ..... = .303

Test Identification ..... : 0131-08

Run Identification ..... : 0131-08

Raw Data File ..... : 0131-08.wrl  
Date of test ..... : 11-FEB-1992 14:16:25

\*\*\* Wave Gauge 4 Summary \*\*\*  
\*\*\* Total Wave Energy \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 7.5791E-02  
Maximum smoothed value ..... = 1.2074E+00  
First moment ..... = 2.9049E-02  
Second moment ..... = 1.4574E-02  
Hsno ..... = 1.101  
Tp ..... = 4.531

\*\*\* Current Meter Summary Seaward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 7.6190E-01  
Maximum smoothed value ..... = 1.3619E+01  
First moment ..... = 3.1040E-01  
Second moment ..... = 1.4944E-01  
Hsno ..... = 3.492  
Tp ..... = 2.207

\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 1.7111E-02  
Maximum smoothed value ..... = 2.6469E-01  
First moment ..... = 7.0703E-03  
Second moment ..... = 3.7487E-03  
Hsno ..... = .526  
Tp ..... = 2.197

\*\*\* Current Meter Summary Leeward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 9.2538E-01  
Maximum smoothed value ..... = 1.8277E+01  
First moment ..... = 3.2664E-01  
Second moment ..... = 1.3498E-01  
Hsno ..... = 3.848  
Tp ..... = 4.531

\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 1.3276E-02  
Maximum smoothed value ..... = 1.3569E-01  
First moment ..... = 4.4861E-03  
Second moment ..... = 2.3537E-03  
Hsno ..... = .461  
Tp ..... = 4.376

Test Identification ..... : a131-09

Reflection Coefficients for Data file ..... : a131-09.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.0 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 5.5372E-02  
Maximum smoothed value ..... = 2.1413E+00  
First moment ..... = 1.1040E-02  
Second moment ..... = 2.2099E-03  
Hiso ..... = .943  
Tp ..... = 3.821

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 1.9124E-04  
Maximum smoothed value ..... = 4.5747E-03  
First moment ..... = 4.4377E-05  
Second moment ..... = 1.1883E-05  
Hiso ..... = .853  
Tp ..... = .859

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.2813E-01  
Maximum smoothed value ..... = 2.3906E+00  
First moment ..... = 3.5647E-02  
Second moment ..... = 1.4190E-02  
Hiso ..... = 1.402  
Tp ..... = 1.947

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 3.5191E-03  
Maximum smoothed value ..... = 5.6520E-02  
First moment ..... = 1.2426E-03  
Second moment ..... = 6.4067E-04  
Hiso ..... = .237  
Tp ..... = .169

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 5.8237E-02  
Maximum smoothed value ..... = 2.2770E+00  
First moment ..... = 1.2469E-02  
Second moment ..... = 2.6907E-03  
Hiso ..... = .970  
Tp ..... = 3.821

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 7.8150E-04  
Maximum smoothed value ..... = 2.8099E-02  
First moment ..... = 1.6760E-04  
Second moment ..... = 3.6304E-05  
Hiso ..... = .112  
Tp ..... = .115

Reflection coefficient ..... = .115

Test Identification ..... : a131-09

Reflection Coefficients for Data file ..... : a131-09.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.0 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 4.1228E-02  
Maximum smoothed value ..... = 1.5790E+00  
First moment ..... = 8.1742E-03  
Second moment ..... = 1.6288E-03  
Hiso ..... = .812  
Tp ..... = 3.850

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 3.1843E-04  
Maximum smoothed value ..... = 7.2027E-03  
First moment ..... = 6.7207E-05  
Second moment ..... = 1.6946E-05  
Hiso ..... = .071  
Tp ..... = .088

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 5.2720E-02  
Maximum smoothed value ..... = 1.5989E+00  
First moment ..... = 1.0426E-02  
Second moment ..... = 3.3785E-03  
Hiso ..... = .919  
Tp ..... = 3.850

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.0129E-03  
Maximum smoothed value ..... = 4.4560E-02  
First moment ..... = 6.3986E-04  
Second moment ..... = 3.2344E-04  
Hiso ..... = .179  
Tp ..... = .195

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 4.8139E-02  
Maximum smoothed value ..... = 1.8479E+00  
First moment ..... = 1.0380E-02  
Second moment ..... = 2.2433E-03  
Hiso ..... = .878  
Tp ..... = 3.821

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.4690E-04  
Maximum smoothed value ..... = 4.7953E-03  
First moment ..... = 5.0048E-05  
Second moment ..... = 1.1469E-05  
Hiso ..... = .063  
Tp ..... = .072

Reflection coefficient ..... = .072

Test Identification ..... : a131-09

Run Identification ..... : a131-09

Raw Data File ..... : a131-09.wrl  
Date of test ..... : 11-FEB-1992 14:37:32

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.2769E-01  
Maximum smoothed value ..... = 2.5031E+00  
First moment ..... = 5.4768E-02  
Second moment ..... = 2.9448E-02  
Hiso ..... = 1.429  
Tp ..... = 1.947

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.0257E+00  
Maximum smoothed value ..... = 2.7588E+01  
First moment ..... = 3.4832E-01  
Second moment ..... = 1.4211E-01  
Hiso ..... = 4.053  
Tp ..... = 3.850

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.8741E-02  
Maximum smoothed value ..... = 1.5820E-01  
First moment ..... = 6.4691E-03  
Second moment ..... = 3.3797E-03  
Hiso ..... = .547  
Tp ..... = 1.918

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 6.5316E-01  
Maximum smoothed value ..... = 1.2325E+01  
First moment ..... = 2.7065E-01  
Second moment ..... = 1.3187E-01  
Hiso ..... = 3.233  
Tp ..... = 1.919

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 2.0142E-02  
Maximum smoothed value ..... = 2.0185E-01  
First moment ..... = 7.0754E-03  
Second moment ..... = 3.8575E-03  
Hiso ..... = .571  
Tp ..... = 1.925

Test Identification ..... : a131-10

Reflection Coefficients for Data file ..... : a131-10.wrl

Water Depth (Feet) ..... : 2.29  
Data Channels used to compute Coefficients .. : 1 2 3  
Distances between channels in feet ..... : 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in boresmooth ..... : 13  
Total smoothed energy ..... : 6.6251E-03  
Maximum smoothed value ..... : 2.0087E+00  
First moment ..... : 1.1049E-02  
Second moment ..... : 2.2249E-03  
Hlmo ..... : 1.006  
Tp ..... : 5.278

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... : 4.6771E-03  
Maximum smoothed value ..... : 9.3488E-02  
First moment ..... : 1.0325E-03  
Second moment ..... : 2.7164E-04  
Hlmo ..... : .274  
Tp ..... : .246

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in boresmooth ..... : 13  
Total smoothed energy ..... : 7.7612E-02  
Maximum smoothed value ..... : 1.5366E+00  
First moment ..... : 2.0304E-02  
Second moment ..... : 1.8062E-03  
Hlmo ..... : 1.114  
Tp ..... : 5.224

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... : 4.4548E-03  
Maximum smoothed value ..... : 3.7089E-01  
First moment ..... : 2.1496E-03  
Second moment ..... : 1.4642E-03  
Hlmo ..... : .267  
Tp ..... : .240

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in boresmooth ..... : 13  
Total smoothed energy ..... : 5.4812E-02  
Maximum smoothed value ..... : 2.0902E+00  
First moment ..... : 7.6647E-03  
Second moment ..... : 1.1489E-03  
Hlmo ..... : .930  
Tp ..... : 5.278

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... : 3.1832E-03  
Maximum smoothed value ..... : 1.1922E-01  
First moment ..... : 4.7147E-04  
Second moment ..... : 7.2138E-05  
Hlmo ..... : .226  
Tp ..... : .243

Test Identification ..... : a131-10

Reflection Coefficients for Data file ..... : a131-10.wrl

Water Depth (Feet) ..... : 2.29  
Data Channels used to compute Coefficients .. : 5 6 7  
Distances between channels in feet ..... : 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in boresmooth ..... : 13  
Total smoothed energy ..... : 2.8813E-02  
Maximum smoothed value ..... : 6.1839E-01  
First moment ..... : 6.8063E-03  
Second moment ..... : 1.8710E-03  
Hlmo ..... : .679  
Tp ..... : 2.573

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... : 6.0070E-03  
Maximum smoothed value ..... : 1.5263E-01  
First moment ..... : 1.5924E-03  
Second moment ..... : 4.4439E-04  
Hlmo ..... : .310  
Tp ..... : .457

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in boresmooth ..... : 13  
Total smoothed energy ..... : 2.9409E-02  
Maximum smoothed value ..... : 3.9219E-01  
First moment ..... : 7.6425E-03  
Second moment ..... : 2.9681E-03  
Hlmo ..... : .692  
Tp ..... : 5.278

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... : 1.5719E-03  
Maximum smoothed value ..... : 2.8445E-02  
First moment ..... : 3.1674E-04  
Second moment ..... : 1.1863E-04  
Hlmo ..... : .159  
Tp ..... : .229

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in boresmooth ..... : 13  
Total smoothed energy ..... : 1.3879E-02  
Maximum smoothed value ..... : 5.5472E-01  
First moment ..... : 2.0471E-03  
Second moment ..... : 3.0417E-04  
Hlmo ..... : .471  
Tp ..... : 5.278

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... : 2.2602E-03  
Maximum smoothed value ..... : 8.2565E-02  
First moment ..... : 3.3450E-04  
Second moment ..... : 5.2309E-05  
Hlmo ..... : .188  
Tp ..... : .399

Test Identification ..... : a131-10

Run Identification ..... : a131-10

Raw Data File ..... : a131-10.wrl  
Date of test ..... : 11-FEB-1992 14:56:43

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*

Number of points in boresmooth ..... : 13  
Total smoothed energy ..... : 1.3945E-01  
Maximum smoothed value ..... : 1.8745E+00  
First moment ..... : 6.0147E-02  
Second moment ..... : 3.4137E-02  
Hlmo ..... : 1.494  
Tp ..... : 1.741

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*

Number of points in boresmooth ..... : 13  
Total smoothed energy ..... : 9.6175E-01  
Maximum smoothed value ..... : 1.9046E+01  
First moment ..... : 3.1832E-01  
Second moment ..... : 1.3716E-01  
Hlmo ..... : 3.923  
Tp ..... : 5.278

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in boresmooth ..... : 13  
Total smoothed energy ..... : 1.0071E-02  
Maximum smoothed value ..... : 1.8235E-02  
First moment ..... : 3.6423E-03  
Second moment ..... : 2.0777E-03  
Hlmo ..... : .401  
Tp ..... : 1.724

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*

Number of points in boresmooth ..... : 13  
Total smoothed energy ..... : 8.5772E-01  
Maximum smoothed value ..... : 1.2549E+01  
First moment ..... : 3.4637E-01  
Second moment ..... : 1.6528E-01  
Hlmo ..... : 3.703  
Tp ..... : 2.599

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in boresmooth ..... : 13  
Total smoothed energy ..... : 1.6869E-02  
Maximum smoothed value ..... : 1.7007E-01  
First moment ..... : 6.0256E-03  
Second moment ..... : 3.3584E-03  
Hlmo ..... : .320  
Tp ..... : 1.741

Test Identification ..... : a131-11

Reflection Coefficients for Data file ..... : a131-11.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 4.45801E-02  
Maximum smoothed value ..... = 5.9247E-01  
First moment ..... = 8.4644E-03  
Second moment ..... = 3.08379E-03  
Hmax ..... = .845  
Tp ..... = 5.447

==== Reflected wave energy ====

Total smoothed energy ..... = 1.9854E-03  
Maximum smoothed value ..... = 2.1794E-02  
First moment ..... = 5.5708E-04  
Second moment ..... = 1.8708E-04  
Hmax ..... = .178  
Tp ..... = .211

==== Smoothed spectral densities for DL = 2.5 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 3.74049E-02  
Maximum smoothed value ..... = 5.88947E-01  
First moment ..... = 9.10699E-03  
Second moment ..... = 4.19681E-03  
Hmax ..... = .774  
Tp ..... = 5.447

==== Reflected wave energy ====

Total smoothed energy ..... = 1.9001E-03  
Maximum smoothed value ..... = 2.37091E-02  
First moment ..... = 8.9894E-04  
Second moment ..... = 5.8152E-04  
Hmax ..... = .174  
Tp ..... = .225

==== Smoothed spectral densities for DL = 9.5 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 3.7702E-02  
Maximum smoothed value ..... = 6.0774E-01  
First moment ..... = 4.1318E-03  
Second moment ..... = 1.1197E-03  
Hmax ..... = .777  
Tp ..... = 5.447

==== Reflected wave energy ====

Total smoothed energy ..... = 1.5694E-03  
Maximum smoothed value ..... = 1.9359E-02  
First moment ..... = 2.42557E-04  
Second moment ..... = 5.9647E-05  
Hmax ..... = .148  
Tp ..... = .191

==== Reflection coefficient =====<

Test Identification ..... : a131-11

Reflection Coefficients for Data file ..... : a131-11.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 3.81019E-02  
Maximum smoothed value ..... = 2.6680E-01  
First moment ..... = 9.6912E-03  
Second moment ..... = 2.9633E-03  
Hmax ..... = .781  
Tp ..... = 5.689

==== Reflected wave energy ====

Total smoothed energy ..... = 2.4433E-03  
Maximum smoothed value ..... = 2.4455E-02  
First moment ..... = 6.8564E-04  
Second moment ..... = 2.1596E-04  
Hmax ..... = .206  
Tp ..... = .263

==== Smoothed spectral densities for DL = 3.0 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 4.2822E-02  
Maximum smoothed value ..... = 2.40551E-01  
First moment ..... = 1.1194E-02  
Second moment ..... = 4.2830E-03  
Hmax ..... = .828  
Tp ..... = 5.689

==== Reflected wave energy ====

Total smoothed energy ..... = 1.7121E-03  
Maximum smoothed value ..... = 1.11789E-02  
First moment ..... = 5.7975E-04  
Second moment ..... = 3.01367E-04  
Hmax ..... = .166  
Tp ..... = .200

==== Smoothed spectral densities for DL = 10.0 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 2.5609E-02  
Maximum smoothed value ..... = 3.4523E-01  
First moment ..... = 4.9687E-03  
Second moment ..... = 1.1102E-03  
Hmax ..... = .640  
Tp ..... = 2.876

==== Reflected wave energy ====

Total smoothed energy ..... = 2.83397E-03  
Maximum smoothed value ..... = 1.21011E-01  
First moment ..... = 6.4429E-04  
Second moment ..... = 1.6653E-04  
Hmax ..... = .214  
Tp ..... = .334

==== Reflection coefficient =====<

Test Identification ..... : a131-11

Run Identification ..... : a131-11

Raw Data File ..... : a131-11.wrl  
Date of test ..... : 11-FEB-1992 15:23:01

==== Wave Gauge 4 Summary =====  
==== Total Wave Energy ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 5.3237E-02  
Maximum smoothed value ..... = 5.4578E-01  
First moment ..... = 1.6792E-01  
Second moment ..... = 7.5584E-03  
Hmax ..... = .923  
Tp ..... = 5.689

==== Current Meter Summary Seaward Gauge =====  
==== Horizontal Current Energy Channel 8 =====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 6.6530E-01  
Maximum smoothed value ..... = 7.1128E+00  
First moment ..... = 1.90145E-01  
Second moment ..... = 7.2411E-02  
Hmax ..... = 3.263  
Tp ..... = 5.447

==== Vertical Current Energy Channel 9 =====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.1570E-02  
Maximum smoothed value ..... = 3.4317E-02  
First moment ..... = 3.63270E-03  
Second moment ..... = 1.8517E-03  
Hmax ..... = .430  
Tp ..... = 71.143

==== Current Meter Summary Leeward Gauge =====  
==== Horizontal Current Energy Channel 10 =====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 5.6476E-01  
Maximum smoothed value ..... = 5.8551E+00  
First moment ..... = 1.5920E-01  
Second moment ..... = 5.9320E-02  
Hmax ..... = 3.006  
Tp ..... = 5.689

==== Vertical Current Energy Channel 11 =====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.01261E-02  
Maximum smoothed value ..... = 3.98557E-02  
First moment ..... = 3.0572E-03  
Second moment ..... = 1.5720E-03  
Hmax ..... = .403  
Tp ..... = 5.689

Test Identification ..... : a131-13

Reflection Coefficients for Data file ..... : a131-12.wl

Water Depth (Feet) ..... = 2.29

Data Channels used to compute Coefficients ... = 1 2 3

Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in bores smooth ..... = 13

Total smoothed energy ..... = 4.65021E-02

Maximum smoothed value ..... = 5.91835E-01

First moment ..... = 9.14982E-03

Second moment ..... = 2.31658E-03

Hmo ..... = .863

Hp ..... = 5.447

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.63058E-03

Maximum smoothed value ..... = 2.46995E-02

First moment ..... = 7.34625E-04

Second moment ..... = 2.41979E-04

Hmo ..... = .205

Hp ..... = .238

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in bores smooth ..... = 13

Total smoothed energy ..... = 3.91644E-02

Maximum smoothed value ..... = 4.93392E-01

First moment ..... = 9.90678E-03

Second moment ..... = 4.41032E-03

Hmo ..... = .792

Hp ..... = 5.447

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.17798E-03

Maximum smoothed value ..... = 1.34793E-02

First moment ..... = 9.18229E-04

Second moment ..... = 5.58922E-04

Hmo ..... = .187

Hp ..... = .226

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in bores smooth ..... = 13

Total smoothed energy ..... = 3.84479E-02

Maximum smoothed value ..... = 6.69201E-01

First moment ..... = 6.39015E-03

Second moment ..... = 1.20799E-03

Hmo ..... = .784

Hp ..... = 5.447

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.22408E-03

Maximum smoothed value ..... = 3.55995E-02

First moment ..... = 4.72117E-04

Second moment ..... = 1.17488E-04

Hmo ..... = .189

Hp ..... = .241

Test Identification ..... : a131-12

Reflection Coefficients for Data file ..... : a131-12.wl

Water Depth (Feet) ..... = 2.29

Data Channels used to compute Coefficients ... = 5 6 7

Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in bores smooth ..... = 13

Total smoothed energy ..... = 3.7826E-02

Maximum smoothed value ..... = 2.52104E-01

First moment ..... = 9.20361E-03

Second moment ..... = 2.71377E-03

Hmo ..... = .773

Hp ..... = 5.447

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.70234E-03

Maximum smoothed value ..... = 2.18918E-02

First moment ..... = 6.88989E-04

Second moment ..... = 2.10959E-04

Hmo ..... = .208

Hp ..... = .269

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in bores smooth ..... = 13

Total smoothed energy ..... = 4.54613E-02

Maximum smoothed value ..... = 2.48232E-01

First moment ..... = 1.23335E-02

Second moment ..... = 4.93847E-03

Hmo ..... = .853

Hp ..... = 5.447

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.05622E-03

Maximum smoothed value ..... = 1.90193E-02

First moment ..... = 8.04178E-04

Second moment ..... = 4.47207E-04

Hmo ..... = .181

Hp ..... = .213

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in bores smooth ..... = 13

Total smoothed energy ..... = 2.6654E-02

Maximum smoothed value ..... = 4.02037E-01

First moment ..... = 5.26054E-03

Second moment ..... = 1.19588E-03

Hmo ..... = .653

Hp ..... = 2.844

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 3.22850E-03

Maximum smoothed value ..... = 1.806577E-01

First moment ..... = 7.66476E-04

Second moment ..... = 2.06393E-04

Hmo ..... = .227

Hp ..... = .348

Test Identification ..... : a131-12

Run Identification ..... : a131-12

Raw Data File ..... : a131-12.wl

Date of test ..... : 11-FEB-1992 15:47:39

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*

Number of points in bores smooth ..... = 13

Total smoothed energy ..... = 5.82012E-02

Maximum smoothed value ..... = 5.30878E-01

First moment ..... = 1.90270E-02

Second moment ..... = 8.71964E-03

Hmo ..... = .965

Hp ..... = 5.447

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*

Number of points in bores smooth ..... = 13

Total smoothed energy ..... = 7.02548E-01

Maximum smoothed value ..... = 6.98051E+00

First moment ..... = 1.96821E-01

Second moment ..... = 7.49050E-02

Hmo ..... = 3.353

Hp ..... = 5.447

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in bores smooth ..... = 13

Total smoothed energy ..... = 1.28922E-02

Maximum smoothed value ..... = 4.20194E-02

First moment ..... = 3.99235E-03

Second moment ..... = 2.11289E-03

Hmo ..... = .454

Hp ..... = 73.143

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*

Number of points in bores smooth ..... = 13

Total smoothed energy ..... = 5.92760E-01

Maximum smoothed value ..... = 5.75424E+00

First moment ..... = 1.69031E-01

Second moment ..... = 6.54388E-02

Hmo ..... = 3.080

Hp ..... = 5.818

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in bores smooth ..... = 13

Total smoothed energy ..... = 9.18244E-03

Maximum smoothed value ..... = 3.84227E-02

First moment ..... = 2.99535E-03

Second moment ..... = 1.57858E-03

Hmo ..... = .383

Hp ..... = 5.818

Test Identification ..... : a131-13

Reflection Coefficients for Data file ..... : a131-13.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 6.4954E-02  
Maximum smoothed value ..... = 2.0417E-01  
First moment ..... = 1.0739E-02  
Second moment ..... = 2.1406E-03  
Hmo ..... = 1.019  
Tp ..... = 5.278

==== Reflected wave energy ====

Total smoothed energy ..... = 3.6034E-03  
Maximum smoothed value ..... = 8.924E-02  
First moment ..... = 7.3719E-04  
Second moment ..... = 1.7959E-04  
Hmo ..... = .243  
Tp ..... = .238

==== Smoothed spectral densities for DL = 2.5 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 7.5731E-02  
Maximum smoothed value ..... = 1.5654E+00  
First moment ..... = 1.8455E-03  
Second moment ..... = 8.9341E-03  
Hmo ..... = 1.101  
Tp ..... = 5.278

==== Reflected wave energy ====

Total smoothed energy ..... = 3.7424E-03  
Maximum smoothed value ..... = 3.1922E-01  
First moment ..... = 1.7437E-03  
Second moment ..... = 1.2073E-03  
Hmo ..... = .245  
Tp ..... = .223

==== Smoothed spectral densities for DL = 9.5 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 5.349E-02  
Maximum smoothed value ..... = 2.0674E+00  
First moment ..... = 7.7794E-03  
Second moment ..... = 1.1369E-03  
Hmo ..... = .925  
Tp ..... = 5.278

==== Reflected wave energy ====

Total smoothed energy ..... = 2.9941E-03  
Maximum smoothed value ..... = 1.1344E-01  
First moment ..... = 4.3960E-04  
Second moment ..... = 6.6021E-05  
Hmo ..... = .219  
Tp ..... = .237

Test Identification ..... : a131-13

Reflection Coefficients for Data file ..... : a131-13.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 4.5579E-02  
Maximum smoothed value ..... = 1.2490E+00  
First moment ..... = 1.2050E-02  
Second moment ..... = 3.5369E-03  
Hmo ..... = .854  
Tp ..... = 2.653

==== Reflected wave energy ====

Total smoothed energy ..... = 5.4582E-03  
Maximum smoothed value ..... = 1.2263E-01  
First moment ..... = 1.3201E-03  
Second moment ..... = 3.6837E-04  
Hmo ..... = .29C  
Tp ..... = .346

==== Smoothed spectral densities for DL = 3.0 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 4.2154E-02  
Maximum smoothed value ..... = 7.1250E-01  
First moment ..... = 1.1510E-02  
Second moment ..... = 4.3299E-03  
Hmo ..... = .821  
Tp ..... = 2.573

==== Reflected wave energy ====

Total smoothed energy ..... = 1.5197E-03  
Maximum smoothed value ..... = 2.7300E-02  
First moment ..... = 4.1457E-04  
Second moment ..... = 2.0357E-04  
Hmo ..... = .157  
Tp ..... = .191

==== Smoothed spectral densities for DL = 10.0 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.4892E-02  
Maximum smoothed value ..... = 5.7367E-01  
First moment ..... = 2.1988E-03  
Second moment ..... = 3.2719E-04  
Hmo ..... = .488  
Tp ..... = 5.278

==== Reflected wave energy ====

Total smoothed energy ..... = 2.4008E-03  
Maximum smoothed value ..... = 9.1384E-02  
First moment ..... = 3.5990E-04  
Second moment ..... = 5.5152E-05  
Hmo ..... = .196  
Tp ..... = .402

Test Identification ..... : a131-13

Run Identification ..... : a131-13

Raw Data File ..... : a131-13.wrl  
Date of test ..... : 12-FEB-1992 09:12:24

==== Wave Gauge 4 Summary =====  
==== Total Wave Energy ====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.30031E-01  
Maximum smoothed value ..... = 1.8341E+00  
First moment ..... = 5.50231E-02  
Second moment ..... = 3.02976E-02  
Hmo ..... = 1.442  
Tp ..... = 1.753

==== Current Meter Summary Seaward Gauge =====  
==== Horizontal Current Energy Channel 8 =====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 9.5971E-01  
Maximum smoothed value ..... = 1.8738E+01  
First moment ..... = 3.2372E-01  
Second moment ..... = 1.42196E-01  
Hmo ..... = 3.919  
Tp ..... = 5.224

==== Vertical Current Energy Channel 9 =====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.3535E-01  
Maximum smoothed value ..... = 2.3116E+00  
First moment ..... = 9.1970E-03  
Second moment ..... = 2.1257E-03  
Hmo ..... = 1.462  
Tp ..... = 73.143

==== Current Meter Summary Leeward Gauge =====  
==== Horizontal Current Energy Channel 10 =====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 9.3226E-01  
Maximum smoothed value ..... = 1.3535E+01  
First moment ..... = 3.0080E-01  
Second moment ..... = 1.8334E-01  
Hmo ..... = 3.862  
Tp ..... = 2.547

==== Vertical Current Energy Channel 11 =====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 2.2595E-02  
Maximum smoothed value ..... = 2.1054E-01  
First moment ..... = 8.1701E-03  
Second moment ..... = 4.2496E-03  
Hmo ..... = .601  
Tp ..... = 2.560

Test Identification ..... : a131-14

Reflection Coefficients for Data file ..... : a131-14.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficients ... = 1 2 3  
Distance between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 3.9003E-02  
Maximum smoothed value ..... = 5.0743E-01  
First moment ..... = 7.41317E-03  
Second moment ..... = 1.76167E-03  
Hmo ..... = .795  
Tp ..... = 5.505  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.81409E-03  
Maximum smoothed value ..... = 2.63179E-02  
First moment ..... = 4.78390E-04  
Second moment ..... = 1.53445E-04  
Hmo ..... = .170  
Reflection coefficient ..... = .214  
\*\*\* Smoothed spectral densities for DL = 2.3 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 3.6597E-02  
Maximum smoothed value ..... = 4.2591E-01  
First moment ..... = 9.61810E-03  
Second moment ..... = 4.4566E-03  
Hmo ..... = .765  
Tp ..... = 5.505  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.1267E-03  
Maximum smoothed value ..... = 1.08560E-02  
First moment ..... = 1.01117E-03  
Second moment ..... = 6.5132E-04  
Hmo ..... = .185  
Reflection coefficient ..... = .241  
\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 3.44281E-02  
Maximum smoothed value ..... = 5.18204E-01  
First moment ..... = 5.78129E-03  
Second moment ..... = 1.09020E-03  
Hmo ..... = .742  
Tp ..... = 5.505  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.57814E-03  
Maximum smoothed value ..... = 3.22047E-02  
First moment ..... = 3.26540E-04  
Second moment ..... = 7.94031E-05  
Hmo ..... = .159  
Reflection coefficient ..... = .214

Test Identification ..... : a131-14

Reflection Coefficients for Data file ..... : a131-14.wrl

Water Depth (Feet) ..... = 2.29  
Data Channels used to compute Coefficients ... = 5 6 7  
Distance between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 3.2654E-02  
Maximum smoothed value ..... = 2.13397E-01  
First moment ..... = 7.91052E-03  
Second moment ..... = 2.31370E-03  
Hmo ..... = .723  
Tp ..... = 5.505  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.19485E-03  
Maximum smoothed value ..... = 2.03429E-02  
First moment ..... = 5.3178E-04  
Second moment ..... = 1.60662E-04  
Hmo ..... = .187  
Reflection coefficient ..... = .259  
\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 3.6559E-02  
Maximum smoothed value ..... = 1.8800E-01  
First moment ..... = 9.52530E-03  
Second moment ..... = 3.69526E-03  
Hmo ..... = .765  
Tp ..... = 5.505  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.5706E-03  
Maximum smoothed value ..... = 1.07039E-02  
First moment ..... = 5.7528E-04  
Second moment ..... = 3.12751E-04  
Hmo ..... = .159  
Reflection coefficient ..... = .207  
\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 2.36130E-02  
Maximum smoothed value ..... = 2.83395E-01  
First moment ..... = 4.54314E-03  
Second moment ..... = 1.01231E-03  
Hmo ..... = .615  
Tp ..... = 2.844  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.49106E-03  
Maximum smoothed value ..... = 1.04506E-01  
First moment ..... = 5.42445E-04  
Second moment ..... = 1.38999E-04  
Hmo ..... = .200  
Reflection coefficient ..... = .325

Test Identification ..... : a131-14

Run Identification ..... : a131-14

Raw Data File ..... : a131-14.wrl  
Date of test ..... : 12-FEB-1992 09:37:22

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 5.3474E-02  
Maximum smoothed value ..... = 4.4421E-01  
First moment ..... = 1.7148E-02  
Second moment ..... = 7.94499E-03  
Hmo ..... = .916  
Tp ..... = 5.505

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 5.94902E-01  
Maximum smoothed value ..... = 5.5638E+00  
First moment ..... = 1.7060E-01  
Second moment ..... = 6.6178E-02  
Hmo ..... = 3.085  
Tp ..... = 5.505  
\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 6.10595E-07  
Maximum smoothed value ..... = 1.73758E-07  
First moment ..... = 7.63811E-08  
Second moment ..... = 5.09912E-08  
Hmo ..... = .003  
Tp ..... = 1.234

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 5.17199E-01  
Maximum smoothed value ..... = 4.36951E+00  
First moment ..... = 1.46750E-01  
Second moment ..... = 5.64037E-02  
Hmo ..... = 2.877  
Tp ..... = 5.885  
\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.05013E-02  
Maximum smoothed value ..... = 3.91814E-02  
First moment ..... = 3.1878E-03  
Second moment ..... = 1.6300E-03  
Hmo ..... = .410  
Tp ..... = 73.143



Test Identification ..... : a155-01

Reflection Coefficients for Data file ..... : a155-01.wrl

Water Depth (Feet) ..... = 2.90  
Data Channels used to compute Coefficients .. = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.57934E-01  
Maximum smoothed value ..... = 4.16643E+00  
First moment ..... = 3.24119E-02  
Second moment ..... = 8.14614E-03  
Hlmo ..... = 1.590  
Tp ..... = 4.613

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 5.78966E-03  
Maximum smoothed value ..... = 1.33447E-01  
First moment ..... = 1.63339E-03  
Second moment ..... = 5.17934E-04  
Hlmo ..... = .304  
Tp ..... = .191

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.59944E-01  
Maximum smoothed value ..... = 3.38043E+00  
First moment ..... = 2.96561E-02  
Second moment ..... = 1.33798E-02  
Hlmo ..... = 1.475  
Tp ..... = 4.613

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 4.97942E-03  
Maximum smoothed value ..... = 1.14509E-01  
First moment ..... = 2.24982E-03  
Second moment ..... = 1.35180E-03  
Hlmo ..... = .282  
Tp ..... = .191

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.06623E-01  
Maximum smoothed value ..... = 4.12238E+00  
First moment ..... = 1.67429E-02  
Second moment ..... = 2.65149E-03  
Hlmo ..... = 1.307  
Tp ..... = 4.613

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.70702E-03  
Maximum smoothed value ..... = 8.9104E-02  
First moment ..... = 4.21334E-04  
Second moment ..... = 7.30856E-05  
Hlmo ..... = .208  
Tp ..... = .119

Test Identification ..... : a155-01

Reflection Coefficients for Data file ..... : a155-01.wrl

Water Depth (Feet) ..... = 2.90  
Data Channels used to compute Coefficients .. = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 7.3493E-02  
Maximum smoothed value ..... = 1.70649E+00  
First moment ..... = 1.94232E-02  
Second moment ..... = 5.90064E-03  
Hlmo ..... = 1.085  
Tp ..... = 2.393

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 5.24074E-03  
Maximum smoothed value ..... = 1.32914E-01  
First moment ..... = 1.46647E-03  
Second moment ..... = 4.63114E-04  
Hlmo ..... = .290  
Tp ..... = .267

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 6.70416E-02  
Maximum smoothed value ..... = 1.00477E+00  
First moment ..... = 1.89182E-02  
Second moment ..... = 8.90346E-03  
Hlmo ..... = 1.036  
Tp ..... = 4.613

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 5.58134E-03  
Maximum smoothed value ..... = 1.33140E-01  
First moment ..... = 2.88171E-03  
Second moment ..... = 1.78550E-03  
Hlmo ..... = .799  
Tp ..... = .289

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 3.3224E-02  
Maximum smoothed value ..... = 1.24183E+00  
First moment ..... = 5.26359E-03  
Second moment ..... = 8.54505E-04  
Hlmo ..... = .729  
Tp ..... = 4.613

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.44257E-03  
Maximum smoothed value ..... = 7.38405E-02  
First moment ..... = 3.75951E-04  
Second moment ..... = 6.67530E-05  
Hlmo ..... = .198  
Tp ..... = .271

Test Identification ..... : a155-01

Run Identification ..... : a155-01

Raw Data File ..... : a155-01.wrl  
Date of test ..... : 12-FEB-1992 10:56:26

\*\*\* Wave Gauge 4 Summary \*\*\*  
\*\*\* Total Wave Energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.96203E-01  
Maximum smoothed value ..... = 2.75267E+00  
First moment ..... = 5.4005E-02  
Second moment ..... = 2.58284E-02  
Hlmo ..... = 1.591  
Tp ..... = 4.741

\*\*\* Current Meter Summary Seaward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.44401E+00  
Maximum smoothed value ..... = 3.13713E+01  
First moment ..... = 4.62054E-01  
Second moment ..... = 1.81397E-01  
Hlmo ..... = 4.807  
Tp ..... = 4.613

\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.33558E-01  
Maximum smoothed value ..... = 2.5159E+00  
First moment ..... = 9.19005E-03  
Second moment ..... = 2.12555E-03  
Hlmo ..... = 1.462  
Tp ..... = 73.143

\*\*\* Current Meter Summary Lowsward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.06413E+00  
Maximum smoothed value ..... = 1.8214E+01  
First moment ..... = 3.62343E-01  
Second moment ..... = 1.47416E-01  
Hlmo ..... = 4.127  
Tp ..... = 4.613

\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.75413E-02  
Maximum smoothed value ..... = 1.55383E-01  
First moment ..... = 5.25988E-03  
Second moment ..... = 2.54616E-03  
Hlmo ..... = .530  
Tp ..... = 4.571

Test Identification ..... : a155-02

Reflection Coefficients for Data File ..... : a155-02.wrl

Water Depth (Feet) ..... = 2.90  
Data Channels used to compute Coefficients ... = 1 2 3  
Distance between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 6.84901E-02  
Maximum smoothed value ..... = 8.89544E-01  
First moment ..... = 1.39048E-02  
Second moment ..... = 3.63499E-03  
Hmo ..... = 1.047  
Tp ..... = 5.020

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.37723E-03  
Maximum smoothed value ..... = 2.60057E-02  
First moment ..... = 7.33274E-04  
Second moment ..... = 2.8898E-04  
Hmo ..... = .195  
Tp ..... = .166  
\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 5.41718E-02  
Maximum smoothed value ..... = 7.39143E-01  
First moment ..... = 1.22544E-02  
Second moment ..... = 5.07888E-03  
Hmo ..... = .931  
Tp ..... = 4.971

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.52413E-03  
Maximum smoothed value ..... = 1.87072E-02  
First moment ..... = 1.20119E-03  
Second moment ..... = 7.33943E-04  
Hmo ..... = .201  
Tp ..... = .216  
\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 5.4984E-02  
Maximum smoothed value ..... = 8.92511E-01  
First moment ..... = 1.05033E-02  
Second moment ..... = 2.20499E-03  
Hmo ..... = .967  
Tp ..... = 5.020

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.01057E-03  
Maximum smoothed value ..... = 4.35822E-02  
First moment ..... = 5.06158E-04  
Second moment ..... = 1.43870E-04  
Hmo ..... = .179  
Tp ..... = .165  
Reflection coefficient ..... <-----

Test Identification ..... : a155-02

Reflection Coefficients for Data File ..... : a155-02.wrl

Water Depth (Feet) ..... = 2.90  
Data Channels used to compute Coefficients ... = 5 6 7  
Distance between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 5.89154E-02  
Maximum smoothed value ..... = 4.13335E-01  
First moment ..... = 1.4454E-02  
Second moment ..... = 4.3321E-03  
Hmo ..... = .971  
Tp ..... = 5.020

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.49631E-03  
Maximum smoothed value ..... = 1.99640E-02  
First moment ..... = 7.24189E-04  
Second moment ..... = 2.48592E-04  
Hmo ..... = .200  
Tp ..... = .206  
\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 5.99301E-02  
Maximum smoothed value ..... = 3.7407E-01  
First moment ..... = 1.41033E-02  
Second moment ..... = 5.27166E-03  
Hmo ..... = .979  
Tp ..... = 5.020

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.22834E-03  
Maximum smoothed value ..... = 1.95120E-02  
First moment ..... = 9.9391E-04  
Second moment ..... = 5.69657E-04  
Hmo ..... = .189  
Tp ..... = .193  
\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 4.4965E-02  
Maximum smoothed value ..... = 5.3719E-01  
First moment ..... = 9.2419E-03  
Second moment ..... = 2.2101E-03  
Hmo ..... = .848  
Tp ..... = 2.612

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.80191E-03  
Maximum smoothed value ..... = 1.01553E-01  
First moment ..... = 7.03891E-04  
Second moment ..... = 2.03126E-04  
Hmo ..... = .212  
Tp ..... = .250  
Reflection coefficient ..... <-----

Test Identification ..... : a155-02

Run Identification ..... : a155-02

Raw Data File ..... : a155-02.wrl  
Date of test ..... : 12-FEB-1992 11:39:08

\*\*\* Wave Group 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 7.92168E-02  
Maximum smoothed value ..... = 7.47967E-01  
First moment ..... = 2.5507E-02  
Second moment ..... = 1.14043E-02  
Hmo ..... = 1.126  
Tp ..... = 5.020

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 7.69997E-01  
Maximum smoothed value ..... = 8.34829E+00  
First moment ..... = 2.04555E-01  
Second moment ..... = 7.18723E-02  
Hmo ..... = 3.510  
Tp ..... = 5.020

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.4819E-06  
Maximum smoothed value ..... = 7.04783E-07  
First moment ..... = 1.71968E-07  
Second moment ..... = 1.1220E-07  
Hmo ..... = .005  
Tp ..... = 1.778

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 6.68063E-01  
Maximum smoothed value ..... = 6.28323E+00  
First moment ..... = 1.79631E-01  
Second moment ..... = 6.35654E-02  
Hmo ..... = 3.269  
Tp ..... = 5.020

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.07131E-02  
Maximum smoothed value ..... = 4.97209E-02  
First moment ..... = 2.90218E-03  
Second moment ..... = 1.36647E-03  
Hmo ..... = .414  
Tp ..... = 5.020

Test Identification ..... : a155-03

Refraction Coefficients for Data file ..... : a155-03.wrl

Water Depth (Feet) ..... = 2.90  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy ====

Number of points in boreas smooth ..... = 13  
Total smoothed energy ..... = 1.17809E-01  
Maximum smoothed value ..... = 4.54740E+00  
First moment ..... = 2.51777E-02  
Second moment ..... = 5.38203E-03  
Hmo ..... = 1.373  
Tp ..... = 3.683

==== Reflected wave energy ====

Total smoothed energy ..... = 2.77748E-03  
Maximum smoothed value ..... = 7.33099E-02  
First moment ..... = 5.76022E-04  
Second moment ..... = 1.39751E-04  
Hmo ..... = .209  
Tp ..... = .152

==== Smoothed spectral densities for DL = 2.5 Ft. =====  
==== Incident wave energy ====

Number of points in boreas smooth ..... = 13  
Total smoothed energy ..... = 2.34888E-01  
Maximum smoothed value ..... = 4.05278E+00  
First moment ..... = 6.33699E-02  
Second moment ..... = 2.69503E-02  
Hmo ..... = 1.895  
Tp ..... = 3.683

==== Reflected wave energy ====

Total smoothed energy ..... = 1.05578E-02  
Maximum smoothed value ..... = 2.19141E-01  
First moment ..... = 4.56154E-03  
Second moment ..... = 2.65504E-03  
Hmo ..... = .417  
Tp ..... = .728

==== Smoothed spectral densities for DL = 9.5 Ft. =====  
==== Incident wave energy ====

Number of points in boreas smooth ..... = 13  
Total smoothed energy ..... = 1.28418E-01  
Maximum smoothed value ..... = 4.79492E+00  
First moment ..... = 2.87928E-02  
Second moment ..... = 6.99168E-03  
Hmo ..... = 1.408  
Tp ..... = 3.683

==== Reflected wave energy ====

Total smoothed energy ..... = 4.20468E-03  
Maximum smoothed value ..... = 1.26648E-01  
First moment ..... = 9.12168E-04  
Second moment ..... = 2.14772E-04  
Hmo ..... = .261  
Tp ..... = .185

Test Identification ..... : a155-03

Refraction Coefficients for Data file ..... : a155-03.wrl

Water Depth (Feet) ..... = 2.90  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy ====

Number of points in boreas smooth ..... = 13  
Total smoothed energy ..... = 1.24564E-01  
Maximum smoothed value ..... = 4.81414E+00  
First moment ..... = 2.65301E-02  
Second moment ..... = 5.68201E-03  
Hmo ..... = 1.412  
Tp ..... = 3.683

==== Reflected wave energy ====

Total smoothed energy ..... = 1.72003E-03  
Maximum smoothed value ..... = 3.68205E-02  
First moment ..... = 3.96002E-04  
Second moment ..... = 9.22002E-05  
Hmo ..... = .166  
Tp ..... = .118

==== Smoothed spectral densities for DL = 3.0 Ft. =====  
==== Incident wave energy ====

Number of points in boreas smooth ..... = 13  
Total smoothed energy ..... = 1.98676E-01  
Maximum smoothed value ..... = 5.05398E+00  
First moment ..... = 5.51798E-02  
Second moment ..... = 2.56847E-02  
Hmo ..... = 1.783  
Tp ..... = 3.686

==== Reflected wave energy ====

Total smoothed energy ..... = 1.84787E-02  
Maximum smoothed value ..... = 5.16366E-01  
First moment ..... = 1.00889E-02  
Second moment ..... = 6.53727E-03  
Hmo ..... = .544  
Tp ..... = .305

==== Smoothed spectral densities for DL = 10.0 Ft. =====  
==== Incident wave energy ====

Number of points in boreas smooth ..... = 13  
Total smoothed energy ..... = 1.39344E-01  
Maximum smoothed value ..... = 5.38366E+00  
First moment ..... = 3.22912E-02  
Second moment ..... = 7.51222E-03  
Hmo ..... = 1.493  
Tp ..... = 3.657

==== Reflected wave energy ====

Total smoothed energy ..... = 2.96325E-03  
Maximum smoothed value ..... = 8.34481E-02  
First moment ..... = 5.95089E-04  
Second moment ..... = 1.36884E-04  
Hmo ..... = .218  
Tp ..... = .146

Test Identification ..... : a155-03

Run Identification ..... : a155-03

Raw Data File ..... : a155-03.wrl  
Date of test ..... : 12-FEB-1992 12:02:37

==== Wave Gauge 4 Summary =====  
==== Total Wave Energy ====

Number of points in boreas smooth ..... = 13  
Total smoothed energy ..... = 2.67313E-01  
Maximum smoothed value ..... = 5.07400E+00  
First moment ..... = 1.07096E-01  
Second moment ..... = 5.68048E-02  
Hmo ..... = 2.048  
Tp ..... = 3.683

==== Current Meter Summary Seaward Gauge =====  
==== Horizontal Current Energy Channel 8 =====

Number of points in boreas smooth ..... = 13  
Total smoothed energy ..... = 1.84161E+00  
Maximum smoothed value ..... = 6.18376E+01  
First moment ..... = 5.86852E-01  
Second moment ..... = 2.10695E-01  
Hmo ..... = 5.428  
Tp ..... = 3.683

==== Vertical Current Energy Channel 9 =====

Number of points in boreas smooth ..... = 13  
Total smoothed energy ..... = 1.33544E-01  
Maximum smoothed value ..... = 2.52144E+00  
First moment ..... = 9.19726E-03  
Second moment ..... = 2.12579E-03  
Hmo ..... = 1.462  
Tp ..... = 73.143

==== Current Meter Summary Leeward Gauge =====  
==== Horizontal Current Energy Channel 10 =====

Number of points in boreas smooth ..... = 13  
Total smoothed energy ..... = 1.17188E+00  
Maximum smoothed value ..... = 3.44573E+01  
First moment ..... = 4.11441E-01  
Second moment ..... = 1.68074E-01  
Hmo ..... = 4.330  
Tp ..... = 3.683

==== Vertical Current Energy Channel 11 =====

Number of points in boreas smooth ..... = 13  
Total smoothed energy ..... = 1.34815E-02  
Maximum smoothed value ..... = 1.74803E-01  
First moment ..... = 4.89279E-03  
Second moment ..... = 2.56617E-03  
Hmo ..... = .464  
Tp ..... = 3.580

Test Identification ..... : a155-04

Reflection Coefficients for Data file ..... : a155-04.wrl

Water Depth (Feet) ..... = 2.50  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 3.6795E-01  
Maximum smoothed value ..... = 8.0310E+00  
First moment ..... = 1.04779E-01  
Second moment ..... = 4.00249E-02  
Hmo ..... = 2.312  
Tp ..... = 2.073  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 3.6910E-02  
Maximum smoothed value ..... = 1.3820E+00  
First moment ..... = 1.5230E-02  
Second moment ..... = 6.39637E-03  
Hmo ..... = .748  
Reflection coefficient ..... = .347  
\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.9591E-01  
Maximum smoothed value ..... = 3.3959E+00  
First moment ..... = 4.6109E-02  
Second moment ..... = 1.6603E-02  
Hmo ..... = 1.770  
Tp ..... = 2.073  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 4.8726E-03  
Maximum smoothed value ..... = 1.1061E-01  
First moment ..... = 2.1614E-03  
Second moment ..... = 1.1071E-03  
Hmo ..... = .279  
Reflection coefficient ..... = .158  
\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.0799E-01  
Maximum smoothed value ..... = 3.9644E+00  
First moment ..... = 2.0032E-02  
Second moment ..... = 3.9176E-03  
Hmo ..... = 1.284  
Tp ..... = 4.231  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.0979E-03  
Maximum smoothed value ..... = 2.8037E-02  
First moment ..... = 1.7991E-04  
Second moment ..... = 3.5801E-05  
Hmo ..... = .133  
Reflection coefficient ..... = .103

Test Identification ..... : a155-04

Reflection Coefficients for Data file ..... : a155-04.wrl

Water Depth (Feet) ..... = 2.50  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.2979E-01  
Maximum smoothed value ..... = 3.8570E+00  
First moment ..... = 3.0335E-02  
Second moment ..... = 8.5207E-03  
Hmo ..... = 1.441  
Tp ..... = 3.969  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 7.6462E-03  
Maximum smoothed value ..... = 1.5121E-01  
First moment ..... = 2.3592E-03  
Second moment ..... = 8.4637E-04  
Hmo ..... = .350  
Reflection coefficient ..... = .243  
\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.2030E-01  
Maximum smoothed value ..... = 3.8999E+00  
First moment ..... = 1.8399E-02  
Second moment ..... = 5.1206E-03  
Hmo ..... = 1.403  
Tp ..... = 3.908  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 4.6581E-03  
Maximum smoothed value ..... = 1.1388E-01  
First moment ..... = 9.7085E-04  
Second moment ..... = 3.7560E-04  
Hmo ..... = .273  
Reflection coefficient ..... = .195  
\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.0618E-01  
Maximum smoothed value ..... = 4.0925E+00  
First moment ..... = 2.0881E-02  
Second moment ..... = 4.1316E-03  
Hmo ..... = 1.303  
Tp ..... = 3.969  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 4.9376E-03  
Maximum smoothed value ..... = 1.4721E-01  
First moment ..... = 9.3643E-04  
Second moment ..... = 1.8883E-04  
Hmo ..... = .281  
Reflection coefficient ..... = .216

Test Identification ..... : a155-04

Run Identification ..... : a155-04

Raw Data File ..... : a155-04.wrl  
Date of test ..... : 12-FEB-1992 12:23:13

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 2.0313E-01  
Maximum smoothed value ..... = 3.0686E+00  
First moment ..... = 8.7872E-02  
Second moment ..... = 4.9120E-02  
Hmo ..... = 1.812  
Tp ..... = 2.016

\*\*\* Current Meter Summary Seward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.2365E+00  
Maximum smoothed value ..... = 3.1813E+01  
First moment ..... = 4.2095E-01  
Second moment ..... = 1.7008E-01  
Hmo ..... = 4.448  
Tp ..... = 4.000

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.3355E-01  
Maximum smoothed value ..... = 2.5210E+00  
First moment ..... = 9.1892E-03  
Second moment ..... = 2.124E-03  
Hmo ..... = 1.462  
Tp ..... = 71.143

\*\*\* Current Meter Summary Loward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.3876E+00  
Maximum smoothed value ..... = 3.7263E+01  
First moment ..... = 4.6059E-01  
Second moment ..... = 1.8084E-01  
Hmo ..... = 4.712  
Tp ..... = 4.197

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.4192E-02  
Maximum smoothed value ..... = 2.3803E-01  
First moment ..... = 4.8795E-03  
Second moment ..... = 2.4728E-03  
Hmo ..... = .477  
Tp ..... = 3.879

Test Identification ..... : a155-05

Reflection Coefficients for Data file ..... : a155-05.wrl

Water Depth (Feet) ..... = 2.90  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in borecast smooth ..... = 13  
Total smoothed energy ..... = 1.2691E-01  
Maximum smoothed value ..... = 3.5232E+00  
First moment ..... = 2.8356E-02  
Second moment ..... = 4.1233E-03  
Hmo ..... = 1.422  
Tp ..... = 5.626  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.75471E-03  
Maximum smoothed value ..... = 3.8201E-02  
First moment ..... = 5.8328E-04  
Second moment ..... = 1.9556E-04  
Hmo ..... = .210  
Tp ..... = .146  
\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in borecast smooth ..... = 13  
Total smoothed energy ..... = 1.0206E-01  
Maximum smoothed value ..... = 1.3111E+00  
First moment ..... = 4.0853E-02  
Second moment ..... = 1.9541E-02  
Hmo ..... = 1.278  
Tp ..... = 1.875  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 8.6222E-03  
Maximum smoothed value ..... = 2.1872E-01  
First moment ..... = 5.3003E-03  
Second moment ..... = 3.4545E-03  
Hmo ..... = .371  
Tp ..... = .291  
\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in borecast smooth ..... = 13  
Total smoothed energy ..... = 1.3954E-01  
Maximum smoothed value ..... = 3.4982E+00  
First moment ..... = 2.6573E-02  
Second moment ..... = 6.0974E-03  
Hmo ..... = 1.493  
Tp ..... = 5.565  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 5.0417E-03  
Maximum smoothed value ..... = 1.0582E-01  
First moment ..... = 1.8148E-03  
Second moment ..... = 3.2617E-04  
Hmo ..... = .283  
Tp ..... = .191

Test Identification ..... : a155-05

Reflection Coefficients for Data file ..... : a155-05.wrl

Water Depth (Feet) ..... = 2.90  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in borecast smooth ..... = 13  
Total smoothed energy ..... = 6.2549E-02  
Maximum smoothed value ..... = 1.4737E+00  
First moment ..... = 1.38007E-02  
Second moment ..... = 3.5356E-03  
Hmo ..... = 1.000  
Tp ..... = 2.753  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.5994E-03  
Maximum smoothed value ..... = 2.3287E-02  
First moment ..... = 3.4039E-04  
Second moment ..... = 9.4703E-05  
Hmo ..... = .160  
Tp ..... = .160  
\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in borecast smooth ..... = 13  
Total smoothed energy ..... = 6.2943E-02  
Maximum smoothed value ..... = 1.2527E+00  
First moment ..... = 1.2464E-02  
Second moment ..... = 3.9124E-03  
Hmo ..... = 1.004  
Tp ..... = 2.753  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.1803E-03  
Maximum smoothed value ..... = 2.1418E-02  
First moment ..... = 7.4316E-04  
Second moment ..... = 3.3872E-04  
Hmo ..... = .187  
Tp ..... = .186  
\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in borecast smooth ..... = 13  
Total smoothed energy ..... = 7.3357E-02  
Maximum smoothed value ..... = 1.8733E+00  
First moment ..... = 1.8132E-02  
Second moment ..... = 5.0239E-03  
Hmo ..... = 1.083  
Tp ..... = 2.753  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 3.9768E-03  
Maximum smoothed value ..... = 1.0561E-01  
First moment ..... = 9.8904E-04  
Second moment ..... = 2.8504E-04  
Hmo ..... = .232  
Tp ..... = .233

Test Identification ..... : a155-05

Run Identification ..... : a155-05

Raw Data File ..... : a155-05.wrl  
Date of test ..... : 12-FEB-1992 12:39:57

\*\*\* Wave Gauge 4 Summary \*\*\*  
\*\*\* Total Wave Energy \*\*\*  
Number of points in borecast smooth ..... = 13  
Total smoothed energy ..... = 1.7542E-01  
Maximum smoothed value ..... = 2.2096E+00  
First moment ..... = 6.6132E-02  
Second moment ..... = 3.4383E-02  
Hmo ..... = 1.675  
Tp ..... = 5.689

\*\*\* Current Meter Summary Seaward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in borecast smooth ..... = 13  
Total smoothed energy ..... = 1.2431E+00  
Maximum smoothed value ..... = 2.8645E+01  
First moment ..... = 3.5152E-01  
Second moment ..... = 1.3046E-01  
Hmo ..... = 4.461  
Tp ..... = 5.626  
\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in borecast smooth ..... = 13  
Total smoothed energy ..... = 1.3395E-01  
Maximum smoothed value ..... = 2.5215E+00  
First moment ..... = 9.2936E-03  
Second moment ..... = 2.1933E-03  
Hmo ..... = 1.464  
Tp ..... = 71.143

\*\*\* Current Meter Summary Leeward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in borecast smooth ..... = 13  
Total smoothed energy ..... = 9.6769E-01  
Maximum smoothed value ..... = 1.8377E+01  
First moment ..... = 3.0897E-01  
Second moment ..... = 1.2826E-01  
Hmo ..... = 3.935  
Tp ..... = 5.689  
\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in borecast smooth ..... = 13  
Total smoothed energy ..... = 1.8916E-02  
Maximum smoothed value ..... = 1.4050E-01  
First moment ..... = 5.8322E-03  
Second moment ..... = 2.9960E-03  
Hmo ..... = .551  
Tp ..... = 5.689

Test Identification ..... : 0155-06

Reflection Coefficients for Data File ..... : 0155-06.wrl

Water Depth (Feet) ..... = 2.90  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 6.6021E-02  
Maximum smoothed value ..... = 2.1473E+00  
First moment ..... = 1.6031E-02  
Second moment ..... = 2.4584E-03  
Hfmo ..... = 1.033  
Tp ..... = 4.785

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 7.3004E-04  
Maximum smoothed value ..... = 1.6117E-02  
First moment ..... = 1.6046E-04  
Second moment ..... = 4.5004E-05  
Hfmo ..... = .109  
Tp ..... = .105

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 5.5484E-02  
Maximum smoothed value ..... = 1.9200E+00  
First moment ..... = 7.1020E-03  
Second moment ..... = 2.4850E-03  
Hfmo ..... = .943  
Tp ..... = 4.785

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 8.7094E-04  
Maximum smoothed value ..... = 1.6115E-02  
First moment ..... = 3.2780E-04  
Second moment ..... = 1.9419E-04  
Hfmo ..... = .118  
Tp ..... = .125

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 5.4125E-02  
Maximum smoothed value ..... = 2.1436E+00  
First moment ..... = 8.7847E-03  
Second moment ..... = 1.4047E-03  
Hfmo ..... = .943  
Tp ..... = 4.785

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 7.0182E-04  
Maximum smoothed value ..... = 2.2421E-02  
First moment ..... = 1.2990E-04  
Second moment ..... = 2.7178E-05  
Hfmo ..... = .106  
Tp ..... = .113

Test Identification ..... : 0155-06

Reflection Coefficients for Data File ..... : 0155-06.wrl

Water Depth (Feet) ..... = 2.90  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 6.0999E-02  
Maximum smoothed value ..... = 1.2497E+00  
First moment ..... = 1.5261E-02  
Second moment ..... = 4.4774E-03  
Hfmo ..... = .988  
Tp ..... = 2.393

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.2601E-03  
Maximum smoothed value ..... = 2.8722E-02  
First moment ..... = 2.8364E-04  
Second moment ..... = 7.7287E-05  
Hfmo ..... = .142  
Tp ..... = .144

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 6.1404E-02  
Maximum smoothed value ..... = 1.0518E+00  
First moment ..... = 1.2839E-02  
Second moment ..... = 4.6907E-03  
Hfmo ..... = .991  
Tp ..... = 4.785

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.4511E-03  
Maximum smoothed value ..... = 3.4820E-02  
First moment ..... = 7.5030E-04  
Second moment ..... = 4.8061E-04  
Hfmo ..... = .152  
Tp ..... = .154

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 3.0169E-02  
Maximum smoothed value ..... = 1.1644E+00  
First moment ..... = 4.8240E-03  
Second moment ..... = 7.7848E-04  
Hfmo ..... = .695  
Tp ..... = 4.741

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 9.0070E-04  
Maximum smoothed value ..... = 3.1246E-02  
First moment ..... = 1.3592E-04  
Second moment ..... = 2.8886E-05  
Hfmo ..... = .120  
Tp ..... = .173

Test Identification ..... : 0155-06

Run Identification ..... : 0155-06

Raw Data File ..... : 0155-06.wrl  
Date of test ..... : 12-FEB-1992 13:46:44

\*\*\* Wave Gauge 4 Summary \*\*\*  
\*\*\* Total Wave Energy \*\*\*

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 8.1749E-02  
Maximum smoothed value ..... = 1.7468E+00  
First moment ..... = 2.4651E-02  
Second moment ..... = 1.1273E-02  
Hfmo ..... = 1.144  
Tp ..... = 4.785

\*\*\* Current Meter Summary Seaward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 8 \*\*\*

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 7.4790E-01  
Maximum smoothed value ..... = 2.0954E+01  
First moment ..... = 2.0600E-01  
Second moment ..... = 6.8594E-02  
Hfmo ..... = 3.459  
Tp ..... = 4.785

\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 2.3304E-01  
Maximum smoothed value ..... = 1.2957E+01  
First moment ..... = 4.4400E-02  
Second moment ..... = 2.4637E-02  
Hfmo ..... = 2.014  
Tp ..... = 71.143

\*\*\* Current Meter Summary Lateral Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 10 \*\*\*

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 5.8715E-01  
Maximum smoothed value ..... = 1.3764E+01  
First moment ..... = 1.7611E-01  
Second moment ..... = 6.2714E-02  
Hfmo ..... = 3.065  
Tp ..... = 4.830

\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 6.0031E-03  
Maximum smoothed value ..... = 8.4760E-02  
First moment ..... = 1.9633E-03  
Second moment ..... = 8.8337E-04  
Hfmo ..... = .310  
Tp ..... = 2.381

Test Identification ..... : a120-01

Reflection Coefficients for Data file ..... : a120-01.wrl

Water Depth (Feet) ..... = 1.25  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.9317E-02  
Maximum smoothed value ..... = 5.5104E-04  
First moment ..... = 3.7470E-03  
Second moment ..... = 8.4389E-04  
Hsno ..... = .543  
Tp ..... = 5.447

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 3.2860E-03  
Maximum smoothed value ..... = 7.3370E-02  
First moment ..... = 7.8302E-04  
Second moment ..... = 2.1741E-04  
Hsno ..... = .227  
Tp ..... = .482

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.7087E-02  
Maximum smoothed value ..... = 3.8990E-04  
First moment ..... = 3.7525E-03  
Second moment ..... = 1.4284E-03  
Hsno ..... = .523  
Tp ..... = 5.389

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.6250E-03  
Maximum smoothed value ..... = 5.3360E-02  
First moment ..... = 1.8002E-04  
Second moment ..... = 5.7113E-05  
Hsno ..... = .161  
Tp ..... = .308

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 2.6334E-02  
Maximum smoothed value ..... = 7.9825E-01  
First moment ..... = 3.0425E-03  
Second moment ..... = 4.5802E-04  
Hsno ..... = .573  
Tp ..... = 5.389

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 3.9672E-03  
Maximum smoothed value ..... = 1.5079E-01  
First moment ..... = 5.9349E-04  
Second moment ..... = 8.4991E-05  
Hsno ..... = .252  
Tp ..... = .440

Test Identification ..... : a120-01

Reflection Coefficients for Data file ..... : a120-01.wrl

Water Depth (Feet) ..... = 1.25  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.7012E-02  
Maximum smoothed value ..... = 5.8252E-01  
First moment ..... = 5.0150E-03  
Second moment ..... = 1.5627E-03  
Hsno ..... = .523  
Tp ..... = 2.723

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.3983E-03  
Maximum smoothed value ..... = 4.9743E-02  
First moment ..... = 4.2279E-04  
Second moment ..... = 1.3185E-04  
Hsno ..... = .150  
Tp ..... = .287

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 2.7250E-02  
Maximum smoothed value ..... = 4.7183E-01  
First moment ..... = 1.1017E-02  
Second moment ..... = 5.0965E-03  
Hsno ..... = .660  
Tp ..... = 1.835

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.6372E-03  
Maximum smoothed value ..... = 2.8120E-02  
First moment ..... = 5.2933E-04  
Second moment ..... = 2.1765E-04  
Hsno ..... = .162  
Tp ..... = .245

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 3.3374E-03  
Maximum smoothed value ..... = 1.2789E-01  
First moment ..... = 5.0359E-04  
Second moment ..... = 7.6509E-05  
Hsno ..... = .231  
Tp ..... = 5.389

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.6267E-05  
Maximum smoothed value ..... = 9.7067E-04  
First moment ..... = 4.2766E-06  
Second moment ..... = 8.3137E-07  
Hsno ..... = .021  
Tp ..... = .089

Test Identification ..... : a120-01

Raw Data File ..... : a120-01.wrl

Date of test ..... : 13-FEB-1992 08:45:01

\*\*\* Wave Gauge 4 Summary \*\*\*  
\*\*\* Total Wave Energy \*\*\*

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.6100E-02  
Maximum smoothed value ..... = 3.3793E-01  
First moment ..... = 5.2010E-03  
Second moment ..... = 2.7672E-03  
Hsno ..... = .508  
Tp ..... = 5.447

\*\*\* Current Meter Summary Seaward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 8 \*\*\*

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 4.8132E-01  
Maximum smoothed value ..... = 9.5660E+00  
First moment ..... = 1.7866E-01  
Second moment ..... = 9.7131E-02  
Hsno ..... = 2.775  
Tp ..... = 5.447

\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 5.7059E-02  
Maximum smoothed value ..... = 9.8067E-01  
First moment ..... = 1.4709E-02  
Second moment ..... = 9.1946E-03  
Hsno ..... = .955  
Tp ..... = 73.143

\*\*\* Current Meter Summary Leeward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 10 \*\*\*

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 2.4125E-01  
Maximum smoothed value ..... = 4.0006E+00  
First moment ..... = 9.3470E-02  
Second moment ..... = 5.1367E-02  
Hsno ..... = 1.965  
Tp ..... = 5.333

\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 9.5873E-03  
Maximum smoothed value ..... = 6.1329E-02  
First moment ..... = 3.4718E-03  
Second moment ..... = 2.1089E-03  
Hsno ..... = .392  
Tp ..... = 1.842

Test Identification ..... : a120-02

Reflection Coefficients for Data file ..... : a120-02.wrl

Water Depth (Feet) ..... = 1.25  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy ====

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 7.96798E-03  
Maximum smoothed value ..... = 9.46378E-03  
First moment ..... = 1.29220E-03  
Second moment ..... = 2.64173E-04  
Hlmo ..... = .348  
Tp ..... = 5.689

==== Reflected wave energy ====

Total smoothed energy ..... = 7.59614E-04  
Maximum smoothed value ..... = 1.06710E-03  
First moment ..... = 1.39262E-04  
Second moment ..... = 3.09892E-05  
Hlmo ..... = .110  
Tp ..... = .316

==== Smoothed spectral densities for DL = 2.5 Ft. =====  
==== Incident wave energy ====

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 8.67309E-03  
Maximum smoothed value ..... = 7.09232E-02  
First moment ..... = 2.24742E-03  
Second moment ..... = 1.06457E-03  
Hlmo ..... = .373  
Tp ..... = 5.689

==== Reflected wave energy ====

Total smoothed energy ..... = 6.03925E-04  
Maximum smoothed value ..... = 6.53999E-03  
First moment ..... = 1.59816E-04  
Second moment ..... = 8.94038E-05  
Hlmo ..... = .096  
Tp ..... = .264

==== Smoothed spectral densities for DL = 9.5 Ft. =====  
==== Incident wave energy ====

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 9.05403E-03  
Maximum smoothed value ..... = 1.32747E-01  
First moment ..... = 1.41499E-03  
Second moment ..... = 2.34622E-04  
Hlmo ..... = .380  
Tp ..... = 5.689

==== Reflected wave energy ====

Total smoothed energy ..... = 1.42381E-03  
Maximum smoothed value ..... = 2.59622E-02  
First moment ..... = 2.18049E-04  
Second moment ..... = 3.60190E-05  
Hlmo ..... = .151  
Tp ..... = .397

Test Identification ..... : a120-02

Reflection Coefficients for Data file ..... : a120-02.wrl

Water Depth (Feet) ..... = 1.25  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy ====

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 5.04161E-03  
Maximum smoothed value ..... = 6.17762E-02  
First moment ..... = 1.30187E-03  
Second moment ..... = 3.43738E-04  
Hlmo ..... = .300  
Tp ..... = 2.768

==== Reflected wave energy ====

Total smoothed energy ..... = 8.05142E-04  
Maximum smoothed value ..... = 8.51395E-03  
First moment ..... = 1.60762E-04  
Second moment ..... = 3.99317E-05  
Hlmo ..... = .114  
Tp ..... = .378

==== Smoothed spectral densities for DL = 3.0 Ft. =====  
==== Incident wave energy ====

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.03614E-02  
Maximum smoothed value ..... = 4.26428E-02  
First moment ..... = 3.59849E-03  
Second moment ..... = 1.33611E-03  
Hlmo ..... = .407  
Tp ..... = 2.000

==== Reflected wave energy ====

Total smoothed energy ..... = 6.24409E-04  
Maximum smoothed value ..... = 7.09888E-03  
First moment ..... = 1.45187E-04  
Second moment ..... = 6.04895E-05  
Hlmo ..... = .100  
Tp ..... = .245

==== Smoothed spectral densities for DL = 10.0 Ft. =====  
==== Incident wave energy ====

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 4.44410E-03  
Maximum smoothed value ..... = 5.96795E-02  
First moment ..... = 6.99135E-04  
Second moment ..... = 1.19481E-04  
Hlmo ..... = .267  
Tp ..... = 3.737

==== Reflected wave energy ====

Total smoothed energy ..... = 1.25225E-03  
Maximum smoothed value ..... = 3.03845E-02  
First moment ..... = 1.88809E-04  
Second moment ..... = 3.17835E-05  
Hlmo ..... = .142  
Tp ..... = .531

Test Identification ..... : a120-02

Run Identification ..... : a120-02

Raw Data File ..... : a120-02.wrl  
Date of test ..... : 13-FEB-1992 09:13:11

==== Wave Gauge 4 Summary =====

==== Total Wave Energy ====

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.01771E-02  
Maximum smoothed value ..... = 8.38428E-02  
First moment ..... = 3.51976E-03  
Second moment ..... = 1.88516E-03  
Hlmo ..... = .404  
Tp ..... = 5.689

==== Current Meter Summary Seaward Gauge =====

==== Horizontal Current Energy Channel 8 ====

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 2.82996E-01  
Maximum smoothed value ..... = 2.02640E+00  
First moment ..... = 9.53708E-02  
Second moment ..... = 4.46168E-02  
Hlmo ..... = 2.128  
Tp ..... = 5.565

==== Vertical Current Energy Channel 9 ====

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.71586E-01  
Maximum smoothed value ..... = 9.74992E+00  
First moment ..... = 3.46172E-02  
Second moment ..... = 1.94995E-02  
Hlmo ..... = 1.657  
Tp ..... = 72.143

==== Current Meter Summary Inland Gauge =====

==== Horizontal Current Energy Channel 10 ====

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.93567E-01  
Maximum smoothed value ..... = 1.36417E+00  
First moment ..... = 6.53265E-02  
Second moment ..... = 3.11212E-02  
Hlmo ..... = 1.760  
Tp ..... = 6.024

==== Vertical Current Energy Channel 11 ====

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 5.42374E-03  
Maximum smoothed value ..... = 1.56722E-02  
First moment ..... = 1.99508E-03  
Second moment ..... = 1.21906E-03  
Hlmo ..... = .295  
Tp ..... = 6.321



Test Identification ..... : a120-03

Reflection Coefficients for Data file ..... : a120-03.wrl

Water Depth (Feet) ..... = 1.25  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.1199E-02  
Maximum smoothed value ..... = 4.3200E-01  
First moment ..... = 2.2639E-03  
Second moment ..... = 4.5920E-04  
Hsno ..... = .423  
Tp ..... = 4.064

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 5.4702E-04  
Maximum smoothed value ..... = 2.0579E-02  
First moment ..... = 1.1167E-04  
Second moment ..... = 2.3019E-05  
Hsno ..... = .094  
Tp ..... = .221

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 3.4001E-02  
Maximum smoothed value ..... = 3.3724E-01  
First moment ..... = 8.6297E-03  
Second moment ..... = 4.3520E-03  
Hsno ..... = .612  
Tp ..... = 1.349

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 5.5341E-04  
Maximum smoothed value ..... = 1.0518E-02  
First moment ..... = 2.6644E-04  
Second moment ..... = 1.4034E-04  
Hsno ..... = .094  
Tp ..... = .154

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.8101E-02  
Maximum smoothed value ..... = 7.0091E-01  
First moment ..... = 3.8763E-03  
Second moment ..... = 8.3179E-04  
Hsno ..... = .538  
Tp ..... = 4.063

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.4141E-03  
Maximum smoothed value ..... = 9.2357E-02  
First moment ..... = 5.1730E-04  
Second moment ..... = 1.1125E-04  
Hsno ..... = .197  
Tp ..... = .345

Test Identification ..... : a120-03

Reflection Coefficients for Data file ..... : a120-03.wrl

Water Depth (Feet) ..... = 1.25  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.1490E-02  
Maximum smoothed value ..... = 4.4487E-01  
First moment ..... = 2.1289E-03  
Second moment ..... = 4.7403E-04  
Hsno ..... = .429  
Tp ..... = 4.063

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 7.2060E-04  
Maximum smoothed value ..... = 2.6731E-02  
First moment ..... = 1.4792E-04  
Second moment ..... = 3.0847E-05  
Hsno ..... = .107  
Tp ..... = .250

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 2.6073E-02  
Maximum smoothed value ..... = 4.1114E-01  
First moment ..... = 9.7631E-03  
Second moment ..... = 4.8508E-03  
Hsno ..... = .646  
Tp ..... = 4.063

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.3692E-03  
Maximum smoothed value ..... = 3.1983E-02  
First moment ..... = 6.3920E-04  
Second moment ..... = 3.6608E-04  
Hsno ..... = .148  
Tp ..... = .229

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 3.3491E-02  
Maximum smoothed value ..... = 1.3027E+00  
First moment ..... = 7.2440E-03  
Second moment ..... = 1.5691E-03  
Hsno ..... = .732  
Tp ..... = 4.031

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.00189E-02  
Maximum smoothed value ..... = 3.8934E-01  
First moment ..... = 2.1697E-03  
Second moment ..... = 4.7040E-04  
Hsno ..... = .400  
Tp ..... = .147

Test Identification ..... : a120-03

Run Identification ..... : a120-03

Raw Data File ..... : a120-03.wrl  
Date of test ..... : 13-FEB-1992 10:01:13

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 2.4729E-02  
Maximum smoothed value ..... = 4.8745E-01  
First moment ..... = 1.19840E-02  
Second moment ..... = 7.22219E-03  
Hsno ..... = .629  
Tp ..... = 2.016

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 5.04590E-01  
Maximum smoothed value ..... = 1.11746E+01  
First moment ..... = 2.3263E-01  
Second moment ..... = 1.23429E-01  
Hsno ..... = 2.847  
Tp ..... = 2.016

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.33558E-01  
Maximum smoothed value ..... = 2.5216E+00  
First moment ..... = 9.1930E-03  
Second moment ..... = 2.12554E-03  
Hsno ..... = 1.462  
Tp ..... = 71.143

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 3.56766E-01  
Maximum smoothed value ..... = 9.01249E+00  
First moment ..... = 1.79521E-01  
Second moment ..... = 1.01990E-01  
Hsno ..... = 2.389  
Tp ..... = 2.008

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.01725E-02  
Maximum smoothed value ..... = 1.34009E-01  
First moment ..... = 5.2819E-03  
Second moment ..... = 3.5687E-03  
Hsno ..... = .403  
Tp ..... = 2.008

Test Identification ..... : a120-04

Reflection Coefficients for Data file ..... : a120-04.wrl

Water Depth (Feet) ..... = 1.25

Data Channels used to compute Coefficients ... = 1 2 3

Distance between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 1.26720E-02

Maximum smoothed value ..... = 4.95920E-01

First moment ..... = 2.17470E-03

Second moment ..... = 3.74400E-04

Umo ..... = .450

Umo ..... = 4.741

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 5.13190E-04

Maximum smoothed value ..... = 1.94720E-02

First moment ..... = 8.87460E-05

Second moment ..... = 1.55630E-05

Umo ..... = .091

Umo ..... = .201

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 2.60710E-02

Maximum smoothed value ..... = 3.46200E-01

First moment ..... = 1.05100E-02

Second moment ..... = 6.60030E-03

Umo ..... = .646

Umo ..... = 1.148

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 1.34450E-03

Maximum smoothed value ..... = 4.07390E-02

First moment ..... = 8.61500E-04

Second moment ..... = 6.07100E-04

Umo ..... = .147

Umo ..... = .227

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 1.83160E-02

Maximum smoothed value ..... = 7.14130E-01

First moment ..... = 3.35910E-03

Second moment ..... = 6.17510E-04

Umo ..... = .541

Umo ..... = 4.697

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 1.90660E-03

Maximum smoothed value ..... = 7.31200E-02

First moment ..... = 3.49720E-04

Second moment ..... = 6.45400E-05

Umo ..... = .175

Test Identification ..... : a120-04

Reflection Coefficients for Data file ..... : a120-04.wrl

Water Depth (Feet) ..... = 1.25

Data Channels used to compute Coefficients ... = 5 6 7

Distance between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 2.51420E-03

Maximum smoothed value ..... = 9.73740E-02

First moment ..... = 4.32160E-04

Second moment ..... = 7.47600E-05

Umo ..... = .201

Umo ..... = 4.785

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 3.09120E-04

Maximum smoothed value ..... = 1.15380E-02

First moment ..... = 5.34290E-05

Second moment ..... = 9.41400E-06

Umo ..... = .070

Umo ..... = .351

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 2.81210E-02

Maximum smoothed value ..... = 9.08500E-01

First moment ..... = 9.54090E-03

Second moment ..... = 3.45690E-03

Umo ..... = .671

Umo ..... = 2.317

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 9.25400E-04

Maximum smoothed value ..... = 2.73100E-02

First moment ..... = 4.56970E-04

Second moment ..... = 2.36990E-04

Umo ..... = .122

Umo ..... = .181

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 4.47100E-03

Maximum smoothed value ..... = 1.73760E-01

First moment ..... = 8.29660E-04

Second moment ..... = 1.54330E-04

Umo ..... = .267

Umo ..... = 4.697

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 7.75370E-04

Maximum smoothed value ..... = 2.81620E-02

First moment ..... = 1.45170E-04

Second moment ..... = 2.74210E-05

Umo ..... = .111

Test Identification ..... : a120-04

Run Identification ..... : a120-04

Raw Data File ..... : a120-04.wrl

Date of test ..... : 13-FEB-1992 10:16:43

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 2.34810E-02

Maximum smoothed value ..... = 4.01000E-01

First moment ..... = 1.03600E-02

Second moment ..... = 6.33400E-03

Umo ..... = .616

Umo ..... = 1.542

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 4.60730E-01

Maximum smoothed value ..... = 7.64800E+00

First moment ..... = 2.12540E-01

Second moment ..... = 1.20160E-01

Umo ..... = 2.715

Umo ..... = 1.538

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 1.33580E-01

Maximum smoothed value ..... = 2.32160E+00

First moment ..... = 9.19010E-03

Second moment ..... = 2.12540E-03

Umo ..... = 1.462

Umo ..... = 73.143

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 3.29750E-01

Maximum smoothed value ..... = 4.39580E+00

First moment ..... = 1.48400E-01

Second moment ..... = 8.18990E-02

Umo ..... = 2.297

Umo ..... = 1.538

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 9.95490E-03

Maximum smoothed value ..... = 1.18150E-01

First moment ..... = 4.02310E-03

Second moment ..... = 2.54890E-03

Umo ..... = .399

Umo ..... = 1.542

Test Identification ..... : a120-05

Reflection Coefficients for Data file ..... : a120-05.wrl

Water Depth (Feet) ..... = 1.25

Data Channels used to compute Coefficients .. = 1 2 3  
Distance between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in borear smooth ..... = 13

Total smoothed energy ..... = 1.29667E-03

Maximum smoothed value ..... = 5.94237E-01

First moment ..... = 2.22514E-03

Second moment ..... = 3.83194E-04

Umo ..... = .455

Umo ..... = 4.741

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 5.36418E-04

Maximum smoothed value ..... = 1.99477E-02

First moment ..... = 9.10728E-05

Second moment ..... = 1.60098E-05

Umo ..... = .092

Umo ..... = .201

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in borear smooth ..... = 13

Total smoothed energy ..... = 2.60263E-02

Maximum smoothed value ..... = 3.46268E-01

First moment ..... = 1.09739E-02

Second moment ..... = 6.57592E-03

Umo ..... = .645

Umo ..... = 4.741

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 1.52973E-03

Maximum smoothed value ..... = 4.62796E-02

First moment ..... = 9.97158E-04

Second moment ..... = 6.90068E-04

Umo ..... = .156

Umo ..... = .242

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in borear smooth ..... = 13

Total smoothed energy ..... = 1.8851E-02

Maximum smoothed value ..... = 7.36313E-01

First moment ..... = 3.46390E-03

Second moment ..... = 6.36701E-04

Umo ..... = .550

Umo ..... = 4.697

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.05131E-03

Maximum smoothed value ..... = 7.81206E-02

First moment ..... = 3.73007E-04

Second moment ..... = 6.85524E-05

Umo ..... = .180

Umo ..... = .328

Test Identification ..... : a120-05

Reflection Coefficients for Data file ..... : a120-05.wrl

Water Depth (Feet) ..... = 1.25

Data Channels used to compute Coefficients .. = 5 6 7  
Distance between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in borear smooth ..... = 13

Total smoothed energy ..... = 1.99372E-03

Maximum smoothed value ..... = 7.63596E-02

First moment ..... = 3.44214E-04

Second moment ..... = 6.00175E-05

Umo ..... = .179

Umo ..... = 4.785

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.51418E-04

Maximum smoothed value ..... = 9.37641E-03

First moment ..... = 4.37108E-05

Second moment ..... = 7.76135E-06

Umo ..... = .063

Umo ..... = .355

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in borear smooth ..... = 13

Total smoothed energy ..... = 2.86118E-02

Maximum smoothed value ..... = 8.78743E-01

First moment ..... = 1.01469E-02

Second moment ..... = 3.86054E-03

Umo ..... = .677

Umo ..... = 2.317

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 7.77998E-04

Maximum smoothed value ..... = 2.18001E-02

First moment ..... = 3.77720E-04

Second moment ..... = 1.94174E-04

Umo ..... = .112

Umo ..... = .165

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in borear smooth ..... = 13

Total smoothed energy ..... = 3.62990E-03

Maximum smoothed value ..... = 1.39828E-01

First moment ..... = 6.7875E-04

Second moment ..... = 1.25501E-04

Umo ..... = .241

Umo ..... = 4.697

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 7.01927E-04

Maximum smoothed value ..... = 2.47068E-02

First moment ..... = 1.31444E-04

Second moment ..... = 2.69063E-05

Umo ..... = .186

Umo ..... = .740

Test Identification ..... : a120-05

Run Identification ..... : a120-05

Raw Data File ..... : a120-05.wrl

Date of test ..... : 13-FEB-1992 10:37:37

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*

Number of points in borear smooth ..... = 13

Total smoothed energy ..... = 2.03644E-02

Maximum smoothed value ..... = 3.32598E-01

First moment ..... = 8.91272E-03

Second moment ..... = 5.41232E-03

Umo ..... = .574

Umo ..... = 1.542

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*

Number of points in borear smooth ..... = 13

Total smoothed energy ..... = 4.33191E-01

Maximum smoothed value ..... = 7.19546E+00

First moment ..... = 1.99828E-01

Second moment ..... = 1.14069E-01

Umo ..... = 2.633

Umo ..... = 1.542

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in borear smooth ..... = 13

Total smoothed energy ..... = 1.33476E-01

Maximum smoothed value ..... = 2.32231E+00

First moment ..... = 9.13973E-03

Second moment ..... = 2.08900E-03

Umo ..... = 1.461

Umo ..... = 73.143

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*

Number of points in borear smooth ..... = 13

Total smoothed energy ..... = 2.96935E-01

Maximum smoothed value ..... = 3.67112E+00

First moment ..... = 1.28211E-01

Second moment ..... = 6.89795E-02

Umo ..... = 2.180

Umo ..... = 2.327

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in borear smooth ..... = 13

Total smoothed energy ..... = 9.40632E-03

Maximum smoothed value ..... = 9.53971E-02

First moment ..... = 3.65695E-03

Second moment ..... = 2.28066E-03

Umo ..... = .388

Umo ..... = 1.547

Test Identification ..... : a120-06

Reflection Coefficients for Data file ..... : a120-06.wrl

Water Depth (Feet) ..... = 1.25

Data Channels used to compute Coefficients ... = 1 2 3

Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 1.90049E-02

Maximum smoothed value ..... = 5.54258E-01

First moment ..... = 3.75094E-03

Second moment ..... = 8.43178E-04

Hlmo ..... = .564

Tp ..... = 5.447

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 3.14500E-03

Maximum smoothed value ..... = 6.96533E-02

First moment ..... = 7.60436E-04

Second moment ..... = 2.08712E-04

Hlmo ..... = .225

Tp ..... = .399

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 1.83346E-02

Maximum smoothed value ..... = 3.33700E-01

First moment ..... = 4.37283E-03

Second moment ..... = 1.95746E-03

Hlmo ..... = .540

Tp ..... = 5.447

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 1.46810E-03

Maximum smoothed value ..... = 4.37698E-02

First moment ..... = 2.11012E-04

Second moment ..... = 7.90064E-05

Hlmo ..... = .153

Tp ..... = .284

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 2.07132E-02

Maximum smoothed value ..... = 6.01746E-01

First moment ..... = 3.09061E-03

Second moment ..... = 4.62823E-04

Hlmo ..... = .576

Tp ..... = 5.389

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 3.99803E-03

Maximum smoothed value ..... = 1.52498E-01

First moment ..... = 5.98762E-04

Second moment ..... = 9.01518E-05

Hlmo ..... = .253

Tp ..... = .439

Test Identification ..... : a120-06

Reflection Coefficients for Data file ..... : a120-06.wrl

Water Depth (Feet) ..... = 1.25

Data Channels used to compute Coefficients ... = 5 6 7

Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 3.09203E-02

Maximum smoothed value ..... = 1.09041E+00

First moment ..... = 9.40829E-03

Second moment ..... = 2.94383E-03

Hlmo ..... = .703

Tp ..... = 2.753

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 4.06233E-03

Maximum smoothed value ..... = 1.57310E-01

First moment ..... = 1.28917E-03

Second moment ..... = 4.11277E-04

Hlmo ..... = .255

Tp ..... = .362

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 3.14913E-02

Maximum smoothed value ..... = 5.55245E-01

First moment ..... = 1.14722E-02

Second moment ..... = 4.77199E-03

Hlmo ..... = .710

Tp ..... = 1.855

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 1.66123E-03

Maximum smoothed value ..... = 3.59313E-02

First moment ..... = 5.55201E-04

Second moment ..... = 2.30304E-04

Hlmo ..... = .163

Tp ..... = .230

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 3.85174E-03

Maximum smoothed value ..... = 1.47711E-01

First moment ..... = 5.82606E-04

Second moment ..... = 8.86932E-05

Hlmo ..... = .248

Tp ..... = 5.447

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 8.21303E-05

Maximum smoothed value ..... = 2.10366E-03

First moment ..... = 1.34335E-05

Second moment ..... = 2.35432E-06

Hlmo ..... = .036

Tp ..... = .146

Test Identification ..... : a120-06

Run Identification ..... : a120-06

Raw Data File ..... : a120-06.wrl

Date of test ..... : 13-FEB-1992 10:32:19

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 2.53135E-02

Maximum smoothed value ..... = 3.45170E-01

First moment ..... = 1.07232E-02

Second moment ..... = 6.82183E-03

Hlmo ..... = .636

Tp ..... = 5.447

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 4.90350E-01

Maximum smoothed value ..... = 8.99631E+00

First moment ..... = 1.89246E-01

Second moment ..... = 1.03643E-01

Hlmo ..... = 2.801

Tp ..... = 5.447

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 1.33589E-01

Maximum smoothed value ..... = 2.52148E+00

First moment ..... = 9.19301E-03

Second moment ..... = 2.12354E-03

Hlmo ..... = 1.462

Tp ..... = 73.143

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 3.59544E-01

Maximum smoothed value ..... = 4.56879E+00

First moment ..... = 1.77089E-01

Second moment ..... = 1.07493E-01

Hlmo ..... = 2.398

Tp ..... = 1.365

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 1.50572E-02

Maximum smoothed value ..... = 1.97735E-01

First moment ..... = 7.83710E-03

Second moment ..... = 5.14261E-03

Hlmo ..... = .491

Tp ..... = 1.362

Test Identification ..... : #452-01

Reflection Coefficients for Data File ..... : #452-01.wrl

Water Depth (Feet) ..... = 1.00  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in barcar smooth ..... = 13  
Total smoothed energy ..... = 1.90277E-03  
Maximum smoothed value ..... = 2.16728E-01  
First moment ..... = 5.00787E-04  
Second moment ..... = 1.32108E-04  
Hmo ..... = .174  
Tp ..... = 3.282

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 7.33269E-04  
Maximum smoothed value ..... = 8.74858E-02  
First moment ..... = 1.94051E-04  
Second moment ..... = 5.13968E-05  
Hmo ..... = .108  
Tp ..... = .621

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in barcar smooth ..... = 13  
Total smoothed energy ..... = 6.66998E-03  
Maximum smoothed value ..... = 3.45726E-03  
First moment ..... = 2.89337E-03  
Second moment ..... = 1.47332E-03  
Hmo ..... = .327  
Tp ..... = 1.407

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 3.89203E-04  
Maximum smoothed value ..... = 2.50757E-03  
First moment ..... = 1.86491E-04  
Second moment ..... = 1.00728E-04  
Hmo ..... = .079  
Tp ..... = .242

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in barcar smooth ..... = 13  
Total smoothed energy ..... = 7.45178E-04  
Maximum smoothed value ..... = 3.12853E-02  
First moment ..... = 1.33299E-04  
Second moment ..... = 2.39247E-05  
Hmo ..... = .109  
Tp ..... = 4.571

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 6.97988E-04  
Maximum smoothed value ..... = 2.96362E-02  
First moment ..... = 1.25292E-04  
Second moment ..... = 2.23398E-05  
Hmo ..... = .106  
Tp ..... = .968

Reflection coefficient ..... <-----

Test Identification ..... : #452-01

Reflection Coefficients for Data File ..... : #452-01.wrl

Water Depth (Feet) ..... = 1.00  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in barcar smooth ..... = 13  
Total smoothed energy ..... = 5.6901E-03  
Maximum smoothed value ..... = 6.84795E-01  
First moment ..... = 1.50231E-03  
Second moment ..... = 3.9758E-04  
Hmo ..... = .302  
Tp ..... = 3.282

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.18067E-03  
Maximum smoothed value ..... = 2.72329E-01  
First moment ..... = 5.78001E-04  
Second moment ..... = 1.53368E-04  
Hmo ..... = .187  
Tp ..... = .619

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in barcar smooth ..... = 13  
Total smoothed energy ..... = 1.6973E-02  
Maximum smoothed value ..... = 1.27084E-01  
First moment ..... = 5.7130E-03  
Second moment ..... = 2.25801E-03  
Hmo ..... = .521  
Tp ..... = 2.723

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 9.34083E-04  
Maximum smoothed value ..... = 1.0931E-02  
First moment ..... = 4.2601E-04  
Second moment ..... = 2.14279E-04  
Hmo ..... = .122  
Tp ..... = .235

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in barcar smooth ..... = 13  
Total smoothed energy ..... = 1.42330E-04  
Maximum smoothed value ..... = 5.2416E-03  
First moment ..... = 2.7617E-05  
Second moment ..... = 4.33464E-06  
Hmo ..... = .034  
Tp ..... = 4.923

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 1.8084E-04  
Maximum smoothed value ..... = 5.2667E-03  
First moment ..... = 2.8018E-05  
Second moment ..... = 4.41887E-06  
Hmo ..... = .034  
Tp ..... = .996

Reflection coefficient ..... <-----

Test Identification ..... : #452-01

Run Identification ..... : #452-01

Raw Data File ..... : #452-01.wrl  
Date of test ..... : 13-FEB-1992 11:22:41

\*\*\* Wave Gauge 4 Summary \*\*\*  
\*\*\* Total Wave Energy \*\*\*

Number of points in barcar smooth ..... = 13  
Total smoothed energy ..... = 4.81079E-03  
Maximum smoothed value ..... = 1.71542E-02  
First moment ..... = 1.6839E-03  
Second moment ..... = 1.0348E-03  
Hmo ..... = .277  
Tp ..... = 1.376

\*\*\* Current Meter Summary Seaward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 8 \*\*\*

Number of points in barcar smooth ..... = 13  
Total smoothed energy ..... = 5.0300E-01  
Maximum smoothed value ..... = 1.70829E+00  
First moment ..... = 1.9912E-01  
Second moment ..... = 8.9412E-02  
Hmo ..... = 2.839  
Tp ..... = 2.783

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in barcar smooth ..... = 13  
Total smoothed energy ..... = 8.30991E-02  
Maximum smoothed value ..... = 1.30856E-01  
First moment ..... = 2.11679E-02  
Second moment ..... = 1.3151E-02  
Hmo ..... = 1.153  
Tp ..... = 18.266

\*\*\* Current Meter Summary Landward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 10 \*\*\*

Number of points in barcar smooth ..... = 13  
Total smoothed energy ..... = 1.91275E-01  
Maximum smoothed value ..... = 1.21781E+00  
First moment ..... = 8.0691E-02  
Second moment ..... = 4.09638E-02  
Hmo ..... = 1.749  
Tp ..... = 2.783

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in barcar smooth ..... = 13  
Total smoothed energy ..... = 7.15073E-03  
Maximum smoothed value ..... = 2.20217E-02  
First moment ..... = 2.13404E-03  
Second moment ..... = 1.25981E-03  
Hmo ..... = .334  
Tp ..... = .955

Test Identification ..... : e452-02

Reflection Coefficients for Data file ..... : e452-02.wrl

Water Depth (Feet) ..... = 1.00

Data Channels used to compute Coefficients ... = 1 2 3

Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 6.0671E-03

Maximum smoothed value ..... = 1.4676E-04

First moment ..... = 1.7803E-03

Second moment ..... = 5.3426E-04

Hlmo ..... = .312

Tp ..... = 2.909

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.8746E-03

Maximum smoothed value ..... = 6.7126E-01

First moment ..... = 8.1813E-04

Second moment ..... = 2.4034E-04

Hlmo ..... = .214

Tp ..... = .688

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 7.1348E-03

Maximum smoothed value ..... = 1.4672E-01

First moment ..... = 3.0427E-03

Second moment ..... = 1.5339E-03

Hlmo ..... = .338

Tp ..... = 1.407

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 4.2734E-04

Maximum smoothed value ..... = 7.9513E-03

First moment ..... = 1.7990E-04

Second moment ..... = 9.1714E-05

Hlmo ..... = .083

Tp ..... = .245

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 1.6379E-03

Maximum smoothed value ..... = 3.2763E-02

First moment ..... = 2.2611E-04

Second moment ..... = 4.1321E-05

Hlmo ..... = .163

Tp ..... = 4.063

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 1.6561E-03

Maximum smoothed value ..... = 3.3903E-02

First moment ..... = 2.2608E-04

Second moment ..... = 4.1757E-05

Hlmo ..... = .163

Tp ..... = .999

Test Identification ..... : e452-02

Reflection Coefficients for Data file ..... : e452-02.wrl

Water Depth (Feet) ..... = 1.00

Data Channels used to compute Coefficients ... = 5 6 7

Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 1.8334E-02

Maximum smoothed value ..... = 4.6050E-01

First moment ..... = 5.4693E-03

Second moment ..... = 1.6468E-03

Hlmo ..... = .542

Tp ..... = 2.909

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 7.8649E-03

Maximum smoothed value ..... = 1.9008E+00

First moment ..... = 2.2978E-03

Second moment ..... = 6.9907E-04

Hlmo ..... = .355

Tp ..... = .655

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 2.6820E-02

Maximum smoothed value ..... = 5.8193E-01

First moment ..... = 1.1154E-02

Second moment ..... = 5.4717E-03

Hlmo ..... = .655

Tp ..... = 2.783

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.7182E-03

Maximum smoothed value ..... = 8.5469E-02

First moment ..... = 1.4835E-03

Second moment ..... = 8.6500E-04

Hlmo ..... = .209

Tp ..... = .318

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 1.0692E-01

Maximum smoothed value ..... = 4.1642E+00

First moment ..... = 2.1134E-02

Second moment ..... = 4.2108E-03

Hlmo ..... = 1.308

Tp ..... = 4.491

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 1.0695E-01

Maximum smoothed value ..... = 4.1632E+00

First moment ..... = 2.1150E-02

Second moment ..... = 4.2107E-03

Hlmo ..... = 1.308

Tp ..... = 4.491

Test Identification ..... : e452-02

Run Identification ..... : e452-02

Raw Data File ..... : e452-02.wrl

Date of test ..... : 13-FEB-1992 11:44:17

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 3.4313E-03

Maximum smoothed value ..... = 2.8759E-02

First moment ..... = 8.0584E-04

Second moment ..... = 4.6148E-04

Hlmo ..... = .234

Tp ..... = 1.403

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 6.0106E-01

Maximum smoothed value ..... = 1.8950E+01

First moment ..... = 2.3331E-01

Second moment ..... = 1.0466E-01

Hlmo ..... = 3.101

Tp ..... = 2.783

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 1.9011E-01

Maximum smoothed value ..... = 5.5018E+00

First moment ..... = 4.1138E-02

Second moment ..... = 2.5349E-02

Hlmo ..... = 1.744

Tp ..... = 73.143

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 1.4201E-01

Maximum smoothed value ..... = 4.2063E+00

First moment ..... = 5.7189E-02

Second moment ..... = 2.7043E-02

Hlmo ..... = 1.507

Tp ..... = 2.783

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 6.2903E-03

Maximum smoothed value ..... = 6.6008E-02

First moment ..... = 2.0809E-03

Second moment ..... = 1.2230E-03

Hlmo ..... = .317

Tp ..... = 1.418

Test Identification ..... : a4549-01

Reflection Coefficients for Data file ..... : a4549-01.wrl

Water Depth (Feet) ..... = .92  
Data Channels used to compute Coefficients ... = 1 2 3  
Distance between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresight smooth ..... = 13  
Total smoothed energy ..... = 7.95449E-03  
Maximum smoothed value ..... = 1.09339E-01  
First moment ..... = 1.4024E-03  
Second moment ..... = 2.31943E-04  
I rms ..... = .356  
Tp ..... = 15.891  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 7.94303E-03  
Maximum smoothed value ..... = 1.10568E-01  
First moment ..... = 1.4104E-03  
Second moment ..... = 2.31946E-04  
I rms ..... = .357  
Reflection coefficient ..... = 1.002  
\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresight smooth ..... = 13  
Total smoothed energy ..... = 7.8229E-02  
Maximum smoothed value ..... = 5.74493E-01  
First moment ..... = 1.94924E-02  
Second moment ..... = 8.02640E-03  
I rms ..... = 1.119  
Tp ..... = 7.478  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 6.19069E-02  
Maximum smoothed value ..... = 5.75118E-01  
First moment ..... = 1.24664E-02  
Second moment ..... = 5.03023E-03  
I rms ..... = .995  
Reflection coefficient ..... = .889  
\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresight smooth ..... = 13  
Total smoothed energy ..... = 1.31229E+01  
Maximum smoothed value ..... = 3.94548E+02  
First moment ..... = 2.42979E+00  
Second moment ..... = 4.57161E-01  
I rms ..... = 14.490  
Tp ..... = 4.309  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.31229E+01  
Maximum smoothed value ..... = 3.94548E+02  
First moment ..... = 2.42979E+00  
Second moment ..... = 4.57161E-01  
I rms ..... = 14.490  
Reflection coefficient ..... = 1.000

Test Identification ..... : a4549-01

Reflection Coefficients for Data file ..... : a4549-01.wrl

Water Depth (Feet) ..... = .92  
Data Channels used to compute Coefficients ... = 5 6 7  
Distance between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresight smooth ..... = 13  
Total smoothed energy ..... = 1.50857E+03  
Maximum smoothed value ..... = 2.06989E+04  
First moment ..... = 2.17014E+02  
Second moment ..... = 4.41037E+01  
I rms ..... = 155.361  
Tp ..... = 15.891  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.50856E+03  
Maximum smoothed value ..... = 2.06989E+04  
First moment ..... = 2.17010E+02  
Second moment ..... = 4.41026E+01  
I rms ..... = 155.361  
Reflection coefficient ..... = 1.000  
\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresight smooth ..... = 13  
Total smoothed energy ..... = 1.1886E+04  
Maximum smoothed value ..... = 1.80048E+05  
First moment ..... = 2.0907E+03  
Second moment ..... = 7.28494E+02  
I rms ..... = 436.106  
Tp ..... = 8.767  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.18869E+04  
Maximum smoothed value ..... = 1.80043E+05  
First moment ..... = 2.09020E+03  
Second moment ..... = 7.28578E+02  
I rms ..... = 436.107  
Reflection coefficient ..... = 1.000  
\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresight smooth ..... = 13  
Total smoothed energy ..... = 1.24768E+06  
Maximum smoothed value ..... = 2.32875E+07  
First moment ..... = 1.96659E+05  
Second moment ..... = 3.32214E+04  
I rms ..... = 4467.992  
Tp ..... = 5.527  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.24768E+06  
Maximum smoothed value ..... = 2.32875E+07  
First moment ..... = 1.96658E+05  
Second moment ..... = 3.32214E+04  
I rms ..... = 4467.992  
Reflection coefficient ..... = 1.000

Test Identification ..... : a4549-01

Run Identification ..... : a4549-01

Raw Data File ..... : a4549-01.wrl  
Date of test ..... : 13-FEB-1992 13:59:57

\*\*\* Wave Group 4 Summary \*\*\*  
\*\*\* Total Wave Energy \*\*\*  
Number of points in boresight smooth ..... = 13  
Total smoothed energy ..... = 3.17561E+01  
Maximum smoothed value ..... = 1.19510E+03  
First moment ..... = 2.2527E+00  
Second moment ..... = 5.17701E-01  
I rms ..... = 22.541  
Tp ..... = 36.330

\*\*\* Current Meter Summary Seaward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in boresight smooth ..... = 13  
Total smoothed energy ..... = 3.00869E+06  
Maximum smoothed value ..... = 1.1228E+08  
First moment ..... = 2.12536E+05  
Second moment ..... = 4.84531E+04  
I rms ..... = 6938.229  
Tp ..... = 36.330  
\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in boresight smooth ..... = 13  
Total smoothed energy ..... = 3.24492E+07  
Maximum smoothed value ..... = 1.21815E+09  
First moment ..... = 2.29308E+06  
Second moment ..... = 5.26432E+05  
I rms ..... = 36.330  
Tp ..... = 36.330

\*\*\* Current Meter Summary Leeward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in boresight smooth ..... = 13  
Total smoothed energy ..... = 3.49201E+08  
Maximum smoothed value ..... = 1.31159E+10  
First moment ..... = 2.46474E+07  
Second moment ..... = 5.6367E+06  
I rms ..... = 36.330  
Tp ..... = 36.330  
\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in boresight smooth ..... = 13  
Total smoothed energy ..... = 3.75943E+09  
Maximum smoothed value ..... = 1.4187E+11  
First moment ..... = 2.65435E+08  
Second moment ..... = 6.07618E+07  
I rms ..... = 36.330  
Tp ..... = 36.330

Test Identification ..... : a549-02

Reflection Coefficients for Data file ..... : a549-02.wrl

Water Depth (Feet) ..... = .92  
Data Channels used to compute Coefficients .. = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

see Smoothed spectral densities for DL = 7.0 Ft. -----  
see Incident wave energy -----  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.1520E-05  
Maximum smoothed value ..... = 5.7471E-04  
First moment ..... = 2.6978E-06  
Second moment ..... = 6.8625E-07  
Hlmo ..... = .014  
Tp ..... = 3.122

see Reflected wave energy -----  
Total smoothed energy ..... = 4.8539E-06  
Maximum smoothed value ..... = 2.3469E-04  
First moment ..... = 1.0862E-06  
Second moment ..... = 2.7525E-07  
Hlmo ..... = .009  
Tp ..... = .649

see Smoothed spectral densities for DL = 2.5 Ft. -----  
see Incident wave energy -----  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.5729E-02  
Maximum smoothed value ..... = 1.7748E-01  
First moment ..... = 7.9704E-03  
Second moment ..... = 4.6776E-03  
Hlmo ..... = .502  
Tp ..... = 1.266

see Reflected wave energy -----  
Total smoothed energy ..... = 9.1772E-04  
Maximum smoothed value ..... = 1.5971E-02  
First moment ..... = 5.8024E-04  
Second moment ..... = 3.7943E-04  
Hlmo ..... = .121  
Tp ..... = .242

see Smoothed spectral densities for DL = 9.5 Ft. -----  
see Incident wave energy -----  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 8.4823E-05  
Maximum smoothed value ..... = 2.4304E-03  
First moment ..... = 1.5618E-05  
Second moment ..... = 2.9212E-06  
Hlmo ..... = .037  
Tp ..... = 4.571

see Reflected wave energy -----  
Total smoothed energy ..... = 8.6791E-05  
Maximum smoothed value ..... = 2.5098E-03  
First moment ..... = 1.6037E-05  
Second moment ..... = 3.0035E-06  
Hlmo ..... = .037  
Tp ..... = 1.011

Test Identification ..... : a549-02

Reflection Coefficients for Data file ..... : a549-02.wrl

Water Depth (Feet) ..... = .92  
Data Channels used to compute Coefficients .. = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

see Smoothed spectral densities for DL = 7.0 Ft. -----  
see Incident wave energy -----  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 8.2462E-05  
Maximum smoothed value ..... = 4.1034E-03  
First moment ..... = 2.0391E-05  
Second moment ..... = 5.2404E-06  
Hlmo ..... = .036  
Tp ..... = 3.122

see Reflected wave energy -----  
Total smoothed energy ..... = 2.9515E-05  
Maximum smoothed value ..... = 1.9265E-03  
First moment ..... = 7.9338E-06  
Second moment ..... = 1.9383E-06  
Hlmo ..... = .022  
Tp ..... = .599

see Smoothed spectral densities for DL = 3.0 Ft. -----  
see Incident wave energy -----  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.2154E-02  
Maximum smoothed value ..... = 2.3563E-01  
First moment ..... = 3.6509E-03  
Second moment ..... = 1.1033E-03  
Hlmo ..... = .441  
Tp ..... = 2.612

see Reflected wave energy -----  
Total smoothed energy ..... = 1.8045E-04  
Maximum smoothed value ..... = 2.9395E-03  
First moment ..... = 5.8173E-05  
Second moment ..... = 2.0104E-05  
Hlmo ..... = .054  
Tp ..... = .122

see Smoothed spectral densities for DL = 10.0 Ft. -----  
see Incident wave energy -----  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 2.3151E-03  
Maximum smoothed value ..... = 4.9261E-02  
First moment ..... = 3.9287E-04  
Second moment ..... = 6.7134E-05  
Hlmo ..... = .192  
Tp ..... = 5.020

see Reflected wave energy -----  
Total smoothed energy ..... = 2.3200E-03  
Maximum smoothed value ..... = 4.9341E-02  
First moment ..... = 3.9635E-04  
Second moment ..... = 6.7251E-05  
Hlmo ..... = .193  
Tp ..... = 1.001

Test Identification ..... : a549-02

Run Identification ..... : a549-02

Raw Data File ..... : a549-02.wrl  
Date of test ..... : 13-FEB-1992 14:16:32

see Wave Gauge 4 Summary -----  
see Total Wave Energy -----  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 6.7671E-03  
Maximum smoothed value ..... = 1.0960E-01  
First moment ..... = 2.7018E-03  
Second moment ..... = 1.3073E-03  
Hlmo ..... = .329  
Tp ..... = 2.462

see Current Meter Summary Seaward Gauge -----  
see Horizontal Current Energy Channel 8 -----  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 5.0627E-01  
Maximum smoothed value ..... = 9.2621E+00  
First moment ..... = 2.0349E-01  
Second moment ..... = 8.6034E-02  
Hlmo ..... = 2.846  
Tp ..... = 2.612

see Vertical Current Energy Channel 9 -----  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.7339E-02  
Maximum smoothed value ..... = 2.2162E-01  
First moment ..... = 6.5037E-03  
Second moment ..... = 3.2468E-03  
Hlmo ..... = .527  
Tp ..... = 2.612

see Current Meter Summary Leeward Gauge -----  
see Horizontal Current Energy Channel 10 -----  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.6432E-01  
Maximum smoothed value ..... = 2.9091E+00  
First moment ..... = 6.8294E-02  
Second moment ..... = 3.0713E-02  
Hlmo ..... = 1.621  
Tp ..... = 2.560

see Vertical Current Energy Channel 11 -----  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 4.4599E-03  
Maximum smoothed value ..... = 4.1924E-02  
First moment ..... = 1.9243E-03  
Second moment ..... = 1.1474E-03  
Hlmo ..... = .267  
Tp ..... = 2.639



Test Identification : b126-01

Reflection Coefficients for Data file : b126-01.wrl

Water Depth (Feet) : 3.58  
Data Channels used to compute Coefficients : 1 2 3  
Distances between channels in feet : 7.00 2.50

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth	13
Total smoothed energy	5.07698E-02
Maximum smoothed value	1.75718E+00
First moment	6.46028E-03
Second moment	9.72418E-04
Hmo	.981
Hp	5.389

==== Reflected wave energy ====

Total smoothed energy	6.40818E-04
Maximum smoothed value	2.44979E-02
First moment	8.57162E-05
Second moment	1.30892E-05
Hmo	.165
Hp	.116

==== Smoothed spectral densities for DL = 2.5 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth	13
Total smoothed energy	5.76178E-03
Maximum smoothed value	1.81718E-01
First moment	1.12602E-03
Second moment	2.40189E-04
Hmo	.304
Hp	2.599

==== Reflected wave energy ====

Total smoothed energy	1.51928E-04
Maximum smoothed value	4.12302E-03
First moment	4.18758E-05
Second moment	1.74613E-05
Hmo	.049
Hp	.162

==== Smoothed spectral densities for DL = 9.5 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth	13
Total smoothed energy	5.29348E-02
Maximum smoothed value	1.82498E+00
First moment	7.93048E-03
Second moment	1.34801E-03
Hmo	.920
Hp	5.389

==== Reflected wave energy ====

Total smoothed energy	5.88038E-04
Maximum smoothed value	2.16038E-02
First moment	8.33029E-05
Second moment	1.32187E-05
Hmo	.097
Hp	.105

==== Reflected wave energy ====

Total smoothed energy	5.88038E-04
Maximum smoothed value	2.16038E-02
First moment	8.33029E-05
Second moment	1.32187E-05
Hmo	.097
Hp	.105

Test Identification : b126-01

Reflection Coefficients for Data file : b126-01.wrl

Water Depth (Feet) : 3.58  
Data Channels used to compute Coefficients : 5 6 7  
Distances between channels in feet : 7.00 3.00

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth	13
Total smoothed energy	4.42238E-02
Maximum smoothed value	1.23068E+00
First moment	7.19486E-03
Second moment	1.48690E-03
Hmo	.841
Hp	5.389

==== Reflected wave energy ====

Total smoothed energy	6.17318E-04
Maximum smoothed value	1.64656E-02
First moment	1.05134E-04
Second moment	2.29063E-05
Hmo	.099
Hp	.118

==== Smoothed spectral densities for DL = 3.0 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth	13
Total smoothed energy	2.89404E-02
Maximum smoothed value	1.19746E+00
First moment	3.74299E-03
Second moment	7.17816E-04
Hmo	.680
Hp	5.333

==== Reflected wave energy ====

Total smoothed energy	4.13450E-04
Maximum smoothed value	2.00313E-02
First moment	5.12747E-05
Second moment	1.87719E-05
Hmo	.081
Hp	.120

==== Smoothed spectral densities for DL = 10.0 Ft. =====  
==== Incident wave energy ====

Number of points in borear smooth	13
Total smoothed energy	4.48992E-02
Maximum smoothed value	1.24693E+00
First moment	8.68095E-03
Second moment	1.97951E-03
Hmo	.857
Hp	5.389

==== Reflected wave energy ====

Total smoothed energy	8.52051E-04
Maximum smoothed value	2.01094E-02
First moment	1.76322E-04
Second moment	4.36592E-05
Hmo	.117
Hp	.136

==== Reflected wave energy ====

Total smoothed energy	8.52051E-04
Maximum smoothed value	2.01094E-02
First moment	1.76322E-04
Second moment	4.36592E-05
Hmo	.117
Hp	.136

Test Identification : b126-01

Run Identification : b126-01

Raw Data File : b126-01.wrl  
Date of test : 19-FEB-1992 09:18:26

==== Wave Gauge 4 Summary ====  
==== Total Wave Energy ====

Number of points in borear smooth	13
Total smoothed energy	5.52248E-02
Maximum smoothed value	1.79561E+00
First moment	1.21294E-02
Second moment	3.09947E-03
Hmo	.940
Hp	5.389

==== Current Meter Summary Seaward Gauge ====  
==== Horizontal Current Energy Channel 8 ====

Number of points in borear smooth	13
Total smoothed energy	5.23240E-01
Maximum smoothed value	1.82848E+01
First moment	1.06467E-01
Second moment	2.37703E-02
Hmo	2.893
Hp	5.389

==== Vertical Current Energy Channel 9 ====

Number of points in borear smooth	13
Total smoothed energy	3.88947E-03
Maximum smoothed value	7.74528E-02
First moment	9.77478E-04
Second moment	4.24072E-04
Hmo	.249
Hp	5.447

==== Current Meter Summary Leeward Gauge ====  
==== Horizontal Current Energy Channel 10 ====

Number of points in borear smooth	13
Total smoothed energy	3.68850E-01
Maximum smoothed value	1.22994E+01
First moment	7.81423E-02
Second moment	1.86950E-02
Hmo	2.429
Hp	5.389

==== Vertical Current Energy Channel 11 ====

Number of points in borear smooth	13
Total smoothed energy	3.40313E-03
Maximum smoothed value	5.15760E-02
First moment	9.36607E-04
Second moment	4.18308E-04
Hmo	.240
Hp	5.503

Test Identification ..... : b126-02

Reflection Coefficients for Data file ..... : b126-02.wrl

Water Depth (Feet) ..... = 3.58  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 1.03942E-01  
Maximum smoothed value ..... = 3.56708E+00  
First moment ..... = 1.46768E-03  
Second moment ..... = 2.59478E-03  
Hmo ..... = 1.290  
Tp ..... = 5.389

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.41031E-03  
Maximum smoothed value ..... = 4.87212E-02  
First moment ..... = 1.82009E-04  
Second moment ..... = 3.01934E-05  
Hmo ..... = .150  
Tp ..... = .116  
\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 2.34248E-02  
Maximum smoothed value ..... = 6.54909E-01  
First moment ..... = 5.60832E-03  
Second moment ..... = 1.76330E-03  
Hmo ..... = .618  
Tp ..... = 2.612

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 7.57462E-04  
Maximum smoothed value ..... = 1.42832E-02  
First moment ..... = 3.09495E-04  
Second moment ..... = 1.77112E-04  
Hmo ..... = .110  
Tp ..... = .178  
\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 1.09092E-01  
Maximum smoothed value ..... = 3.41320E+00  
First moment ..... = 1.82423E-02  
Second moment ..... = 3.64431E-03  
Hmo ..... = 1.325  
Tp ..... = 5.389

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.10591E-03  
Maximum smoothed value ..... = 3.63462E-02  
First moment ..... = 1.60998E-04  
Second moment ..... = 2.95318E-05  
Hmo ..... = .133  
Tp ..... = .100

Test Identification ..... : b126-02

Reflection Coefficients for Data file ..... : b126-02.wrl

Water Depth (Feet) ..... = 3.58  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 8.90396E-02  
Maximum smoothed value ..... = 1.82007E+00  
First moment ..... = 1.76801E-02  
Second moment ..... = 4.29490E-03  
Hmo ..... = 1.194  
Tp ..... = 5.389

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.03093E-03  
Maximum smoothed value ..... = 5.26232E-02  
First moment ..... = 3.51072E-04  
Second moment ..... = 7.73548E-05  
Hmo ..... = .180  
Tp ..... = .151  
\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 7.03447E-02  
Maximum smoothed value ..... = 1.74722E+00  
First moment ..... = 1.14411E-02  
Second moment ..... = 2.87757E-03  
Hmo ..... = 1.061  
Tp ..... = 5.333

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.00372E-03  
Maximum smoothed value ..... = 4.32951E-02  
First moment ..... = 2.02902E-04  
Second moment ..... = 8.45943E-05  
Hmo ..... = .133  
Tp ..... = .125  
\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 9.49719E-02  
Maximum smoothed value ..... = 1.86645E+00  
First moment ..... = 2.14192E-02  
Second moment ..... = 5.60336E-03  
Hmo ..... = 1.233  
Tp ..... = 5.389

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.74282E-03  
Maximum smoothed value ..... = 5.99332E-02  
First moment ..... = 5.90331E-04  
Second moment ..... = 1.50817E-04  
Hmo ..... = .210  
Tp ..... = .170

Test Identification ..... : b126-02

Run Identification ..... : b126-02

Raw Data File ..... : b126-02.wrl  
Date of test ..... : 19-FEB-1992 09:32:08

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 1.23249E-01  
Maximum smoothed value ..... = 3.39075E+00  
First moment ..... = 3.17766E-02  
Second moment ..... = 1.03470E-02  
Hmo ..... = 1.404  
Tp ..... = 5.313

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 9.53719E-01  
Maximum smoothed value ..... = 2.95910E+01  
First moment ..... = 2.16112E-01  
Second moment ..... = 5.68487E-02  
Hmo ..... = 3.906  
Tp ..... = 5.333

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 9.41914E-03  
Maximum smoothed value ..... = 1.10694E-01  
First moment ..... = 2.80604E-03  
Second moment ..... = 1.33328E-03  
Hmo ..... = .368  
Tp ..... = 5.389

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 7.28738E-01  
Maximum smoothed value ..... = 2.08907E+01  
First moment ..... = 1.74920E-01  
Second moment ..... = 4.99726E-02  
Hmo ..... = 3.415  
Tp ..... = 5.333

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 5.47150E-03  
Maximum smoothed value ..... = 5.31712E-02  
First moment ..... = 1.51274E-03  
Second moment ..... = 7.34331E-04  
Hmo ..... = .296  
Tp ..... = 5.120

Test Identification ..... : b126-03

Reflection Coefficients for Data file ..... : b126-03.wrl

Water Depth (Feet) ..... = 3.58

Data Channels used to compute Coefficients ... = 1 2 3

Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 2.6192E-01

Maximum smoothed value ..... = 5.62241E+00

First moment ..... = 3.29931E-02

Second moment ..... = 6.8446E-03

Hlmo ..... = 1.797

Tp ..... = 5.389

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.4810E-03

Maximum smoothed value ..... = 6.1749E-02

First moment ..... = 4.4974E-04

Second moment ..... = 1.1012E-04

Hlmo ..... = .199

Tp ..... = .111

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 1.1953E-01

Maximum smoothed value ..... = 1.7711E+00

First moment ..... = 4.4321E-02

Second moment ..... = 2.1524E-02

Hlmo ..... = 1.383

Tp ..... = 2.612

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 1.3786E-02

Maximum smoothed value ..... = 4.6581E-01

First moment ..... = 8.8090E-03

Second moment ..... = 6.8311E-03

Hlmo ..... = .470

Tp ..... = .340

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 2.2241E-01

Maximum smoothed value ..... = 5.4463E+00

First moment ..... = 4.3147E-02

Second moment ..... = 1.8143E-02

Hlmo ..... = 1.866

Tp ..... = 5.389

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 4.5514E-03

Maximum smoothed value ..... = 1.3151E-01

First moment ..... = 1.2423E-03

Second moment ..... = 3.7033E-04

Hlmo ..... = .270

Tp ..... = .143

Test Identification ..... : b126-03

Reflection Coefficients for Data file ..... : b126-03.wrl

Water Depth (Feet) ..... = 3.58

Data Channels used to compute Coefficients ... = 5 6 7

Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 1.43941E-01

Maximum smoothed value ..... = 3.6352E+00

First moment ..... = 3.3172E-02

Second moment ..... = 8.8766E-03

Hlmo ..... = 1.518

Tp ..... = 2.626

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 5.2302E-03

Maximum smoothed value ..... = 1.2941E-01

First moment ..... = 9.2903E-04

Second moment ..... = 2.1372E-04

Hlmo ..... = .289

Tp ..... = .191

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 1.3118E-01

Maximum smoothed value ..... = 3.1680E+00

First moment ..... = 2.8951E-02

Second moment ..... = 9.1423E-03

Hlmo ..... = 1.449

Tp ..... = 2.626

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 3.7721E-03

Maximum smoothed value ..... = 7.3705E-02

First moment ..... = 1.3700E-03

Second moment ..... = 7.0257E-04

Hlmo ..... = .246

Tp ..... = .170

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 1.6322E-01

Maximum smoothed value ..... = 4.3094E+00

First moment ..... = 4.3092E-02

Second moment ..... = 1.2504E-02

Hlmo ..... = 1.626

Tp ..... = 2.626

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 7.9807E-03

Maximum smoothed value ..... = 1.6042E-01

First moment ..... = 1.8661E-03

Second moment ..... = 5.0723E-04

Hlmo ..... = .357

Tp ..... = .220

Test Identification ..... : b126-03

Run Identification ..... : b126-03

Raw Data File ..... : b126-03.wrl

Date of test ..... : 19-FEB-1992 09:47:06

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 2.81321E-01

Maximum smoothed value ..... = 4.84439E+00

First moment ..... = 9.83497E-02

Second moment ..... = 4.6668E-02

Hlmo ..... = 2.122

Tp ..... = 5.333

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 1.57001E+00

Maximum smoothed value ..... = 3.52463E+01

First moment ..... = 4.49022E-01

Second moment ..... = 1.58552E-01

Hlmo ..... = 5.012

Tp ..... = 5.333

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 1.81335E-02

Maximum smoothed value ..... = 2.19437E-01

First moment ..... = 6.01521E-03

Second moment ..... = 2.86535E-03

Hlmo ..... = .339

Tp ..... = 5.389

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 1.48127E+00

Maximum smoothed value ..... = 3.16666E+01

First moment ..... = 4.34301E-01

Second moment ..... = 1.57398E-01

Hlmo ..... = 4.868

Tp ..... = 5.333

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in boxcar smooth ..... = 13

Total smoothed energy ..... = 1.12308E-02

Maximum smoothed value ..... = 9.85418E-02

First moment ..... = 3.45612E-03

Second moment ..... = 1.69958E-03

Hlmo ..... = .424

Tp ..... = 5.389

Test Identification ..... : b126-04

Reflection Coefficients for Data File ..... : b126-04.wd

Water Depth (Feet) ..... = 3.58

Date Channels used to compute Coefficients ... = 1 2 3

Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in beam smooth ..... = 13

Total smoothed energy ..... = 2.17415E-01

Maximum smoothed value ..... = 5.9370E+00

First moment ..... = 3.6044E-02

Second moment ..... = 7.4192E-03

Ueno ..... = 1.045

Tp ..... = 5.309

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.94170E-03

Maximum smoothed value ..... = 6.10-01E-02

First moment ..... = 5.9030E-04

Second moment ..... = 1.30018E-04

Ueno ..... = .216

Reflection coefficient ..... = .116

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in beam smooth ..... = 13

Total smoothed energy ..... = 1.46572E-01

Maximum smoothed value ..... = 1.94130E+00

First moment ..... = 5.74512E-02

Second moment ..... = 2.90770E-02

Ueno ..... = 1.031

Tp ..... = 2.612

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 1.09245E-02

Maximum smoothed value ..... = 6.00300E-01

First moment ..... = 1.26641E-02

Second moment ..... = 8.45261E-03

Ueno ..... = .565

Reflection coefficient ..... = .349

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in beam smooth ..... = 13

Total smoothed energy ..... = 2.42740E-01

Maximum smoothed value ..... = 5.9523E+00

First moment ..... = 4.80425E-02

Second moment ..... = 1.14903E-02

Ueno ..... = 1.971

Tp ..... = 5.309

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 5.76503E-03

Maximum smoothed value ..... = 1.74700E-01

First moment ..... = 1.63520E-03

Second moment ..... = 4.92348E-04

Ueno ..... = .304

Reflection coefficient ..... = .154

Test Identification ..... : b126-04

Reflection Coefficients for Data File ..... : b126-04.wf

Water Depth (Feet) ..... = 3.58

Date Channels used to compute Coefficients ... = 5 6 7

Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in beam smooth ..... = 13

Total smoothed energy ..... = 1.18723E-01

Maximum smoothed value ..... = 2.79760E+00

First moment ..... = 2.65246E-02

Second moment ..... = 6.91262E-03

Ueno ..... = 1.378

Tp ..... = 2.599

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 5.72074E-03

Maximum smoothed value ..... = 1.43321E-01

First moment ..... = 1.01066E-03

Second moment ..... = 2.29545E-04

Ueno ..... = .303

Reflection coefficient ..... = .220

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in beam smooth ..... = 13

Total smoothed energy ..... = 9.99314E-02

Maximum smoothed value ..... = 2.31684E+00

First moment ..... = 2.19413E-02

Second moment ..... = 2.16356E-03

Ueno ..... = 1.264

Tp ..... = 2.599

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 4.21698E-03

Maximum smoothed value ..... = 8.00432E-02

First moment ..... = 1.53719E-03

Second moment ..... = 7.82355E-04

Ueno ..... = .260

Reflection coefficient ..... = .205

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in beam smooth ..... = 13

Total smoothed energy ..... = 1.41018E-01

Maximum smoothed value ..... = 3.60302E+00

First moment ..... = 3.60302E-02

Second moment ..... = 1.03371E-02

Ueno ..... = 1.502

Tp ..... = 2.599

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 9.04135E-03

Maximum smoothed value ..... = 1.92000E-01

First moment ..... = 2.11519E-03

Second moment ..... = 5.74704E-04

Ueno ..... = .380

Reflection coefficient ..... = .253

Test Identification ..... : b126-04

Run Identification ..... : b126-04

Raw Data File ..... : b126-04.wf

Date of test ..... : 19-FEB-1992 10:05:50

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*

Number of points in beam smooth ..... = 13

Total smoothed energy ..... = 3.12467E-01

Maximum smoothed value ..... = 4.93392E+00

First moment ..... = 1.12031E-01

Second moment ..... = 5.60137E-02

Ueno ..... = 2.226

Tp ..... = 5.333

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*

Number of points in beam smooth ..... = 13

Total smoothed energy ..... = 1.66760E+00

Maximum smoothed value ..... = 3.58350E+01

First moment ..... = 4.89213E-01

Second moment ..... = 1.78078E-01

Ueno ..... = 5.165

Tp ..... = 5.333

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in beam smooth ..... = 13

Total smoothed energy ..... = 2.00190E-02

Maximum smoothed value ..... = 2.31567E-01

First moment ..... = 7.21946E-03

Second moment ..... = 3.9609E-03

Ueno ..... = .574

Tp ..... = 2.681

\*\*\* Current Meter Summary Landward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*

Number of points in beam smooth ..... = 13

Total smoothed energy ..... = 1.54798E+00

Maximum smoothed value ..... = 3.24763E+01

First moment ..... = 4.61701E-01

Second moment ..... = 1.71483E-01

Ueno ..... = 4.977

Tp ..... = 5.333

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in beam smooth ..... = 13

Total smoothed energy ..... = 1.04821E-02

Maximum smoothed value ..... = 9.39297E-02

First moment ..... = 3.20021E-03

Second moment ..... = 1.62979E-03

Ueno ..... = .410

Tp ..... = 5.447

Test Identification ..... : b126-45

Reflection Coefficients for Data file ..... : b126-45.wrl

Water Depth (Feet) ..... = 3.58

Data Channels used to compute Coefficients ... = 1 2 3

Distances between channels in feet ..... = 7.00 2.50

==== Spectral density for DL = 7.0 Ft. =====

==== Incident wave energy =====

Number of points in beamer smooth ..... = 13

Total smoothed energy ..... = 2.6175E-01

Maximum smoothed value ..... = 5.7540E+00

First moment ..... = 3.3124E-02

Second moment ..... = 6.9200E-03

Mean ..... = 1.797

TP ..... = 5.369

==== Reflected wave energy =====

Total smoothed energy ..... = 2.3461E-03

Maximum smoothed value ..... = 5.3612E-02

First moment ..... = 4.5639E-04

Second moment ..... = 1.1746E-04

Mean ..... = .195

Reflection coefficient ..... = .108

==== Spectral density for DL = 2.5 Ft. =====

==== Incident wave energy =====

Number of points in beamer smooth ..... = 13

Total smoothed energy ..... = 1.1853E-01

Maximum smoothed value ..... = 1.7930E+00

First moment ..... = 4.2640E-02

Second moment ..... = 1.9573E-02

Mean ..... = 1.379

TP ..... = 2.612

==== Reflected wave energy =====

Total smoothed energy ..... = 1.1304E-02

Maximum smoothed value ..... = 3.1979E-01

First moment ..... = 7.1700E-03

Second moment ..... = 4.9445E-03

Mean ..... = .029

Reflection coefficient ..... = .311

==== Spectral density for DL = 9.5 Ft. =====

==== Incident wave energy =====

Number of points in beamer smooth ..... = 13

Total smoothed energy ..... = 2.2207E-01

Maximum smoothed value ..... = 5.6014E+00

First moment ..... = 4.3140E-02

Second moment ..... = 1.0227E-02

Mean ..... = 1.046

TP ..... = 5.369

==== Reflected wave energy =====

Total smoothed energy ..... = 4.6445E-03

Maximum smoothed value ..... = 1.3940E-01

First moment ..... = 1.2010E-03

Second moment ..... = 3.9643E-04

Mean ..... = .273

Reflection coefficient ..... = .145

Test Identification ..... : b126-05

Reflection Coefficients for Data file ..... : b126-05.wrl

Water Depth (Feet) ..... = 3.58

Data Channels used to compute Coefficients ... = 5 6 7

Distances between channels in feet ..... = 7.00 3.00

==== Spectral density for DL = 7.0 Ft. =====

==== Incident wave energy =====

Number of points in beamer smooth ..... = 13

Total smoothed energy ..... = 1.7187E-01

Maximum smoothed value ..... = 4.6285E+00

First moment ..... = 4.1138E-02

Second moment ..... = 1.1169E-02

Mean ..... = 1.658

TP ..... = 2.639

==== Reflected wave energy =====

Total smoothed energy ..... = 5.5339E-03

Maximum smoothed value ..... = 1.4052E-01

First moment ..... = 9.4401E-04

Second moment ..... = 2.1552E-04

Mean ..... = .298

Reflection coefficient ..... = .179

==== Spectral density for DL = 3.0 Ft. =====

==== Incident wave energy =====

Number of points in beamer smooth ..... = 13

Total smoothed energy ..... = 1.6398E-01

Maximum smoothed value ..... = 4.1010E+00

First moment ..... = 3.9027E-02

Second moment ..... = 1.2504E-02

Mean ..... = 1.641

TP ..... = 2.639

==== Reflected wave energy =====

Total smoothed energy ..... = 4.5371E-03

Maximum smoothed value ..... = 9.1134E-02

First moment ..... = 1.7624E-03

Second moment ..... = 9.2939E-04

Mean ..... = .269

Reflection coefficient ..... = .164

==== Spectral density for DL = 10.0 Ft. =====

==== Incident wave energy =====

Number of points in beamer smooth ..... = 13

Total smoothed energy ..... = 1.9553E-01

Maximum smoothed value ..... = 5.4873E+00

First moment ..... = 5.2189E-02

Second moment ..... = 1.5390E-02

Mean ..... = 1.769

TP ..... = 2.639

==== Reflected wave energy =====

Total smoothed energy ..... = 8.3995E-03

Maximum smoothed value ..... = 1.6869E-01

First moment ..... = 1.9502E-03

Second moment ..... = 5.2698E-04

Mean ..... = .367

Reflection coefficient ..... = .207

Test Identification ..... : b126-05

Run Identification ..... : b126-05

Raw Data File ..... : b126-05.wrl

Date of test ..... : 19-FEB-1992 10:36:26

==== Wave Output 4 Summary =====

==== Total Wave Energy =====

Number of points in beamer smooth ..... = 13

Total smoothed energy ..... = 2.8707E-01

Maximum smoothed value ..... = 4.8404E+00

First moment ..... = 1.0095E-01

Second moment ..... = 4.7501E-02

Mean ..... = 2.143

TP ..... = 5.333

==== Current Meter Summary Seaward Gauge =====

==== Horizontal Current Energy Channel 8 =====

Number of points in beamer smooth ..... = 13

Total smoothed energy ..... = 1.6070E+00

Maximum smoothed value ..... = 3.5680E+01

First moment ..... = 4.6095E-01

Second moment ..... = 1.6249E-01

Mean ..... = 5.071

TP ..... = 5.333

==== Vertical Current Energy Channel 9 =====

Number of points in beamer smooth ..... = 13

Total smoothed energy ..... = 1.7902E-02

Maximum smoothed value ..... = 2.2117E-01

First moment ..... = 6.0901E-03

Second moment ..... = 2.8941E-03

Mean ..... = .335

TP ..... = 2.758

==== Current Meter Summary Luvward Gauge =====

==== Horizontal Current Energy Channel 10 =====

Number of points in beamer smooth ..... = 13

Total smoothed energy ..... = 1.5486E+00

Maximum smoothed value ..... = 3.2423E+01

First moment ..... = 4.9339E-01

Second moment ..... = 1.6695E-01

Mean ..... = 4.978

TP ..... = 5.369

==== Vertical Current Energy Channel 11 =====

Number of points in beamer smooth ..... = 13

Total smoothed energy ..... = 9.3180E-03

Maximum smoothed value ..... = 9.0094E-02

First moment ..... = 2.9491E-03

Second moment ..... = 1.5121E-03

Mean ..... = .346

TP ..... = 2.709

Test Identification ..... : b126-06

Reflection Coefficients for Data File ..... : b126-06.wrl

Water Depth (Feet) ..... = 3.58  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.37293E-01  
Maximum smoothed value ..... = 1.52726E+00  
First moment ..... = 2.53346E-02  
Second moment ..... = 6.57113E-03  
Hsno ..... = 1.482  
Tp ..... = 5.565

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 4.78150E-03  
Maximum smoothed value ..... = 7.94751E-02  
First moment ..... = 1.61481E-03  
Second moment ..... = 6.24637E-04  
Hsno ..... = .277  
Reflection coefficient ..... = .187  
\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 6.98694E-02  
Maximum smoothed value ..... = 5.42256E-01  
First moment ..... = 1.70044E-02  
Second moment ..... = 7.81425E-03  
Hsno ..... = 1.058  
Tp ..... = 4.531

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 3.97760E-03  
Maximum smoothed value ..... = 5.78718E-02  
First moment ..... = 2.12628E-03  
Second moment ..... = 1.31258E-03  
Hsno ..... = .253  
Reflection coefficient ..... = .239  
\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.76882E-01  
Maximum smoothed value ..... = 1.55378E+00  
First moment ..... = 2.24199E-02  
Second moment ..... = 4.88151E-03  
Hsno ..... = 1.426  
Tp ..... = 5.565

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 3.34470E-03  
Maximum smoothed value ..... = 5.65728E-02  
First moment ..... = 8.87667E-04  
Second moment ..... = 2.68038E-04  
Hsno ..... = .231  
Reflection coefficient ..... = .182

Test Identification ..... : b126-06

Reflection Coefficients for Data File ..... : b126-06.wrl

Water Depth (Feet) ..... = 3.58  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.00737E-01  
Maximum smoothed value ..... = 6.81259E-01  
First moment ..... = 2.37356E-02  
Second moment ..... = 7.13682E-03  
Hsno ..... = 1.267  
Tp ..... = 5.565

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 3.94270E-03  
Maximum smoothed value ..... = 4.89421E-02  
First moment ..... = 1.23013E-03  
Second moment ..... = 4.56814E-04  
Hsno ..... = .251  
Reflection coefficient ..... = .198  
\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 7.92666E-02  
Maximum smoothed value ..... = 4.43948E-01  
First moment ..... = 1.79079E-02  
Second moment ..... = 6.26243E-03  
Hsno ..... = 1.126  
Tp ..... = 5.333

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 3.13458E-03  
Maximum smoothed value ..... = 4.03033E-02  
First moment ..... = 1.48845E-03  
Second moment ..... = 8.47673E-04  
Hsno ..... = .224  
Reflection coefficient ..... = .199  
\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 8.31160E-02  
Maximum smoothed value ..... = 7.01332E-01  
First moment ..... = 1.35411E-02  
Second moment ..... = 4.42178E-03  
Hsno ..... = 1.153  
Tp ..... = 5.565

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 3.13642E-03  
Maximum smoothed value ..... = 1.10671E-01  
First moment ..... = 8.95466E-04  
Second moment ..... = 2.72245E-04  
Hsno ..... = .234  
Reflection coefficient ..... = .283

Test Identification ..... : b126-06

Run Identification ..... : b126-06

Raw Data File ..... : b126-06.wrl  
Date of test ..... : 19-FEB-1992 11:15:47

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.40192E-01  
Maximum smoothed value ..... = 1.25311E+00  
First moment ..... = 4.32259E-02  
Second moment ..... = 1.81676E-02  
Hsno ..... = 1.498  
Tp ..... = 5.565

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.08260E+00  
Maximum smoothed value ..... = 1.24751E+01  
First moment ..... = 2.59098E-01  
Second moment ..... = 7.93914E-02  
Hsno ..... = 4.162  
Tp ..... = 5.689

\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.70387E-02  
Maximum smoothed value ..... = 9.31773E-02  
First moment ..... = 4.33192E-03  
Second moment ..... = 1.99047E-03  
Hsno ..... = .322  
Tp ..... = 5.689

\*\*\* Current Meter Summary Landward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 9.47832E-01  
Maximum smoothed value ..... = 1.01209E+01  
First moment ..... = 2.36770E-01  
Second moment ..... = 7.75078E-02  
Hsno ..... = 3.894  
Tp ..... = 5.565

\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in boreal smooth ..... = 13  
Total smoothed energy ..... = 1.28186E-02  
Maximum smoothed value ..... = 6.45690E-02  
First moment ..... = 3.24271E-03  
Second moment ..... = 1.65654E-03  
Hsno ..... = .454  
Tp ..... = 56.571

Test Identification ..... : b126-07

Reflection Coefficients for Data file ..... : b126-07.wrl

Water Depth (Feet) ..... = 3.58  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

==== Spectralized spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy ====

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 2.74571E-01  
Maximum smoothed value ..... = 6.18541E+00  
First moment ..... = 5.15433E-01  
Second moment ..... = 1.44753E-02  
Hmax ..... = 2.096  
Tp ..... = 6.169

==== Reflected wave energy ====

Total smoothed energy ..... = 1.12908E-01  
Maximum smoothed value ..... = 3.17428E-01  
First moment ..... = 3.63916E-03  
Second moment ..... = 1.39599E-03  
Hmax ..... = .423  
Tp ..... = .202

==== Spectralized spectral densities for DL = 2.5 Ft. =====  
==== Incident wave energy ====

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 1.33551E-01  
Maximum smoothed value ..... = 1.90223E+00  
First moment ..... = 4.02643E-02  
Second moment ..... = 1.61238E-02  
Hmax ..... = 1.459  
Tp ..... = 3.180

==== Reflected wave energy ====

Total smoothed energy ..... = 8.24165E-03  
Maximum smoothed value ..... = 1.26433E-01  
First moment ..... = 3.59538E-03  
Second moment ..... = 1.80648E-03  
Hmax ..... = .343  
Tp ..... = .249

==== Spectralized spectral densities for DL = 9.5 Ft. =====  
==== Incident wave energy ====

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 2.23819E-01  
Maximum smoothed value ..... = 6.23183E+00  
First moment ..... = 3.35176E-02  
Second moment ..... = 6.21708E-03  
Hmax ..... = 1.892  
Tp ..... = 6.169

==== Reflected wave energy ====

Total smoothed energy ..... = 4.15133E-03  
Maximum smoothed value ..... = 1.01971E-01  
First moment ..... = 6.74873E-04  
Second moment ..... = 1.30164E-04  
Hmax ..... = .258  
Tp ..... = .136

Test Identification ..... : b126-07

Reflection Coefficients for Data file ..... : b126-07.wrl

Water Depth (Feet) ..... = 3.58  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

==== Spectralized spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy ====

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 1.11998E-01  
Maximum smoothed value ..... = 1.73386E+00  
First moment ..... = 2.47511E-02  
Second moment ..... = 7.29233E-03  
Hmax ..... = 1.339  
Tp ..... = 6.244

==== Reflected wave energy ====

Total smoothed energy ..... = 3.55348E-03  
Maximum smoothed value ..... = 9.69716E-02  
First moment ..... = 1.20399E-03  
Second moment ..... = 4.68763E-04  
Hmax ..... = .238  
Tp ..... = .178

==== Spectralized spectral densities for DL = 3.0 Ft. =====  
==== Incident wave energy ====

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 7.05446E-02  
Maximum smoothed value ..... = 1.51679E+00  
First moment ..... = 1.93412E-02  
Second moment ..... = 7.44820E-03  
Hmax ..... = 1.063  
Tp ..... = 3.160

==== Reflected wave energy ====

Total smoothed energy ..... = 5.08755E-03  
Maximum smoothed value ..... = 8.46299E-02  
First moment ..... = 2.24314E-03  
Second moment ..... = 1.22038E-03  
Hmax ..... = .285  
Tp ..... = .269

==== Spectralized spectral densities for DL = 10.0 Ft. =====  
==== Incident wave energy ====

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 9.64175E-02  
Maximum smoothed value ..... = 1.97179E+00  
First moment ..... = 1.85612E-02  
Second moment ..... = 4.20640E-03  
Hmax ..... = 1.242  
Tp ..... = 3.160

==== Reflected wave energy ====

Total smoothed energy ..... = 1.52456E-03  
Maximum smoothed value ..... = 2.66143E-02  
First moment ..... = 2.92612E-04  
Second moment ..... = 6.77177E-05  
Hmax ..... = .156  
Tp ..... = .126

Test Identification ..... : b126-07

Run Identification ..... : b126-07

Raw Data File ..... : b126-07.wrl  
Date of test ..... : 19-FEB-1992 11:58:11

==== Wave Gauge 4 Summary =====  
==== Total Wave Energy ====

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 2.41408E-01  
Maximum smoothed value ..... = 4.27156E+00  
First moment ..... = 7.89151E-02  
Second moment ..... = 3.69248E-02  
Hmax ..... = 1.966  
Tp ..... = 6.169

==== Current Meter Summary Seaward Gauge =====  
==== Horizontal Current Energy Channel 8 =====

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 2.04274E+00  
Maximum smoothed value ..... = 5.27442E+01  
First moment ..... = 4.93442E-01  
Second moment ..... = 1.59262E-01  
Hmax ..... = 5.717  
Tp ..... = 6.169

==== Vertical Current Energy Channel 9 =====

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 2.30431E-02  
Maximum smoothed value ..... = 4.13974E-01  
First moment ..... = 7.05108E-03  
Second moment ..... = 2.98519E-03  
Hmax ..... = .633  
Tp ..... = 6.169

==== Current Meter Summary Lookward Gauge =====  
==== Horizontal Current Energy Channel 10 =====

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 1.37314E+00  
Maximum smoothed value ..... = 3.21947E+01  
First moment ..... = 3.65612E-01  
Second moment ..... = 1.31193E-01  
Hmax ..... = 4.687  
Tp ..... = 6.169

==== Vertical Current Energy Channel 11 =====

Number of points in bucket smooth ..... = 13  
Total smoothed energy ..... = 1.09448E-02  
Maximum smoothed value ..... = 9.09790E-02  
First moment ..... = 3.57991E-03  
Second moment ..... = 1.88976E-03  
Hmax ..... = .418  
Tp ..... = 2.040

Test Identification ..... : b126-08

Reflection Coefficients for Data file ..... : b126-08.wrl

Water Depth (Feet) ..... = 3.58  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boresc smooth ..... = 13  
Total smoothed energy ..... = 2.86259E-01  
Maximum smoothed value ..... = 6.98118E+00  
First moment ..... = 6.82468E-02  
Second moment ..... = 1.59968E-02  
Ihno ..... = 2.149  
Tp ..... = 4.491

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.14032E-02  
Maximum smoothed value ..... = 4.80177E-01  
First moment ..... = 3.97403E-03  
Second moment ..... = 1.43294E-03  
Ihno ..... = .427  
Tp ..... = .199

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boresc smooth ..... = 13  
Total smoothed energy ..... = 2.11507E-01  
Maximum smoothed value ..... = 5.49445E+00  
First moment ..... = 4.48139E-02  
Second moment ..... = 2.18123E-02  
Ihno ..... = 1.940  
Tp ..... = 4.491

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.14547E-02  
Maximum smoothed value ..... = 3.31224E-01  
First moment ..... = 6.74351E-03  
Second moment ..... = 4.31671E-03  
Ihno ..... = .428  
Tp ..... = .233

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boresc smooth ..... = 13  
Total smoothed energy ..... = 1.70819E-01  
Maximum smoothed value ..... = 6.55643E+00  
First moment ..... = 2.83903E-02  
Second moment ..... = 4.76808E-03  
Ihno ..... = 1.653  
Tp ..... = 4.491

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.24657E-03  
Maximum smoothed value ..... = 3.46037E-02  
First moment ..... = 2.50098E-04  
Second moment ..... = 6.19257E-05  
Ihno ..... = .141  
Tp ..... = .085

Reflection coefficient ..... = .085

Test Identification ..... : b126-08

Reflection Coefficients for Data file ..... : b126-08.wrl

Water Depth (Feet) ..... = 3.58  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boresc smooth ..... = 13  
Total smoothed energy ..... = 1.50064E-01  
Maximum smoothed value ..... = 3.17571E+00  
First moment ..... = 4.01440E-02  
Second moment ..... = 1.25805E-02  
Ihno ..... = 1.550  
Tp ..... = 2.256

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 9.67807E-03  
Maximum smoothed value ..... = 3.42471E-01  
First moment ..... = 3.44740E-03  
Second moment ..... = 1.25708E-03  
Ihno ..... = .394  
Tp ..... = .254

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boresc smooth ..... = 13  
Total smoothed energy ..... = 1.18023E-01  
Maximum smoothed value ..... = 2.63980E+00  
First moment ..... = 1.8384E-02  
Second moment ..... = 5.25132E-03  
Ihno ..... = 1.374  
Tp ..... = 4.491

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 3.19016E-03  
Maximum smoothed value ..... = 4.41327E-02  
First moment ..... = 8.83716E-04  
Second moment ..... = 3.73547E-04  
Ihno ..... = .226  
Tp ..... = .165

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boresc smooth ..... = 13  
Total smoothed energy ..... = 7.62154E-02  
Maximum smoothed value ..... = 2.89026E+00  
First moment ..... = 1.30767E-02  
Second moment ..... = 2.60006E-03  
Ihno ..... = 1.104  
Tp ..... = 4.491

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 5.20018E-04  
Maximum smoothed value ..... = 1.01182E-02  
First moment ..... = 1.23949E-04  
Second moment ..... = 3.51934E-05  
Ihno ..... = .091  
Tp ..... = .083

Reflection coefficient ..... = .083

Test Identification ..... : b126-08

Run Identification ..... : b126-08

Raw Data File ..... : b126-08.wrl  
Date of test ..... : 19-FEB-1992 13:36:22

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*  
Number of points in boresc smooth ..... = 13  
Total smoothed energy ..... = 1.55998E-01  
Maximum smoothed value ..... = 4.03981E+00  
First moment ..... = 6.38232E-02  
Second moment ..... = 2.92945E-02  
Ihno ..... = 1.722  
Tp ..... = 4.491

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in boresc smooth ..... = 13  
Total smoothed energy ..... = 1.70350E+00  
Maximum smoothed value ..... = 3.94043E+01  
First moment ..... = 5.43764E-01  
Second moment ..... = 2.06718E-01  
Ihno ..... = 5.221  
Tp ..... = 4.491

\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in boresc smooth ..... = 13  
Total smoothed energy ..... = 1.21642E-01  
Maximum smoothed value ..... = 9.59217E-01  
First moment ..... = 2.75314E-02  
Second moment ..... = 1.53693E-02  
Ihno ..... = 1.395  
Tp ..... = 71.143

\*\*\* Current Meter Summary Lowsward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in boresc smooth ..... = 13  
Total smoothed energy ..... = 1.33572E+00  
Maximum smoothed value ..... = 3.29755E+01  
First moment ..... = 4.09160E-01  
Second moment ..... = 1.49392E-01  
Ihno ..... = 4.623  
Tp ..... = 4.491

\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in boresc smooth ..... = 13  
Total smoothed energy ..... = 1.33175E-02  
Maximum smoothed value ..... = 8.77354E-02  
First moment ..... = 4.63753E-03  
Second moment ..... = 2.62472E-03  
Ihno ..... = .462  
Tp ..... = 2.317



Test Identification : b126-09

Reflection Coefficients for Data File : b126-09.wrl

Water Depth (Feet) : 3.58  
Data Channels used to compute Coefficients : 1 2 3  
Distance between channels in feet : 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth : 13  
Total smoothed energy : 3.48321E-01  
Maximum smoothed value : 7.70247E+00  
First moment : 1.18574E-01  
Second moment : 4.24623E-02  
Hmo : 2.403  
Tp : 1.947

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 2.37710E-02  
Maximum smoothed value : 9.15958E-01  
First moment : 1.01573E-02  
Second moment : 4.36197E-03  
Hmo : .617  
Tp : .247

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth : 13  
Total smoothed energy : 3.01440E-01  
Maximum smoothed value : 6.30775E+00  
First moment : 5.54679E-02  
Second moment : 1.83214E-02  
Hmo : 2.196  
Tp : 3.969

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 6.24661E-03  
Maximum smoothed value : 1.28231E-01  
First moment : 2.33860E-03  
Second moment : 1.15934E-03  
Hmo : .316  
Tp : .144

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth : 13  
Total smoothed energy : 1.94160E-01  
Maximum smoothed value : 7.48123E+00  
First moment : 3.85424E-02  
Second moment : 7.59271E-03  
Hmo : 1.772  
Tp : 3.969

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 8.41298E-04  
Maximum smoothed value : 2.67748E-02  
First moment : 1.48044E-04  
Second moment : 3.43952E-05  
Hmo : .116  
Tp : .065

Test Identification : b126-09

Reflection Coefficients for Data File : b126-09.wrl

Water Depth (Feet) : 3.58  
Data Channels used to compute Coefficients : 5 6 7  
Distance between channels in feet : 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth : 13  
Total smoothed energy : 2.41747E-01  
Maximum smoothed value : 7.75320E+00  
First moment : 5.32511E-02  
Second moment : 1.39657E-02  
Hmo : 1.967  
Tp : 3.969

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 8.1245E-03  
Maximum smoothed value : 2.07846E-01  
First moment : 2.84152E-03  
Second moment : 1.11490E-03  
Hmo : .361  
Tp : .183

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth : 13  
Total smoothed energy : 2.37458E-01  
Maximum smoothed value : 8.08031E+00  
First moment : 2.85028E-02  
Second moment : 7.01247E-03  
Hmo : 1.949  
Tp : 3.969

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 2.87387E-03  
Maximum smoothed value : 6.43158E-02  
First moment : 1.17826E-03  
Second moment : 6.37711E-04  
Hmo : .214  
Tp : .110

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boreal smooth : 13  
Total smoothed energy : 2.13410E-01  
Maximum smoothed value : 8.25552E+00  
First moment : 4.27710E-02  
Second moment : 8.59070E-03  
Hmo : 1.848  
Tp : 3.969

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 3.11965E-03  
Maximum smoothed value : 1.07601E-01  
First moment : 6.39087E-04  
Second moment : 1.36408E-04  
Hmo : .223  
Tp : .121

Test Identification : b126-09

Run Identification : b126-09

Raw Data File : b126-09.wrl  
Date of test : 19-FEB-1992 13:55:48

\*\*\* Wave Group 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*  
Number of points in boreal smooth : 13  
Total smoothed energy : 2.91921E-01  
Maximum smoothed value : 5.16535E+00  
First moment : 1.11218E-01  
Second moment : 5.33081E-02  
Hmo : 2.161  
Tp : 3.969

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in boreal smooth : 13  
Total smoothed energy : 1.94358E+00  
Maximum smoothed value : 5.67650E+01  
First moment : 6.13691E-01  
Second moment : 2.21804E-01  
Hmo : 5.576  
Tp : 3.969

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in boreal smooth : 13  
Total smoothed energy : 1.80425E-02  
Maximum smoothed value : 3.26483E-01  
First moment : 6.21481E-03  
Second moment : 2.80959E-03  
Hmo : .537  
Tp : 4.000

\*\*\* Current Meter Summary Luvward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in boreal smooth : 13  
Total smoothed energy : 1.43503E+00  
Maximum smoothed value : 4.82954E+01  
First moment : 5.1530E-01  
Second moment : 1.88610E-01  
Hmo : 5.115  
Tp : 3.969

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in boreal smooth : 13  
Total smoothed energy : 9.81792E-03  
Maximum smoothed value : 1.33931E-01  
First moment : 3.43733E-03  
Second moment : 1.75627E-03  
Hmo : .396  
Tp : 1.954

Test Identification : b126-10

Reflection Coefficients for Data file : b126-10.wrl

Water Depth (Feet) : 3.58  
Data Channels used to compute Coefficients : 1 2 3  
Distances between channels in feet : 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boreal smooth : 13  
Total smoothed energy : 2.11548E-01  
Maximum smoothed value : 5.74544E+00  
First moment : 3.51946E-02  
Second moment : 7.44193E-03  
Ihno : 1.840  
Tp : 5.389

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy : 2.18239E-03  
Maximum smoothed value : 3.76977E-02  
First moment : 4.83923E-04  
Second moment : 1.34578E-04  
Ihno : .167  
Reflection coefficient : .102

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boreal smooth : 13  
Total smoothed energy : 1.36673E-01  
Maximum smoothed value : 1.93468E+00  
First moment : 5.09891E-02  
Second moment : 2.47008E-02  
Ihno : 1.479  
Tp : 2.599

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy : 1.33155E-02  
Maximum smoothed value : 4.34708E-01  
First moment : 9.62046E-03  
Second moment : 6.54094E-03  
Ihno : .495  
Reflection coefficient : .335

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boreal smooth : 13  
Total smoothed energy : 2.33177E-01  
Maximum smoothed value : 5.74002E+00  
First moment : 4.69733E-02  
Second moment : 1.10008E-02  
Ihno : 1.923  
Tp : 5.389

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy : 5.70181E-03  
Maximum smoothed value : 1.88449E-01  
First moment : 1.68158E-03  
Second moment : 5.20047E-04  
Ihno : .382  
Reflection coefficient : .156

Test Identification : b126-10

Reflection Coefficients for Data file : b126-10.wrl

Water Depth (Feet) : 3.58  
Data Channels used to compute Coefficients : 5 6 7  
Distances between channels in feet : 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boreal smooth : 13  
Total smoothed energy : 1.47209E-01  
Maximum smoothed value : 3.76343E+00  
First moment : 3.43080E-02  
Second moment : 9.17347E-03  
Ihno : 1.535  
Tp : 2.612

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy : 6.45329E-03  
Maximum smoothed value : 1.60633E-01  
First moment : 1.14618E-03  
Second moment : 2.60871E-04  
Ihno : .321  
Reflection coefficient : .209

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boreal smooth : 13  
Total smoothed energy : 1.35488E-01  
Maximum smoothed value : 3.10734E+00  
First moment : 3.25079E-02  
Second moment : 1.14068E-02  
Ihno : 1.472  
Tp : 2.667

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy : 5.51170E-03  
Maximum smoothed value : 1.27316E-01  
First moment : 2.36848E-03  
Second moment : 1.27359E-03  
Ihno : .297  
Reflection coefficient : .202

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boreal smooth : 13  
Total smoothed energy : 1.69720E-01  
Maximum smoothed value : 4.5671E+00  
First moment : 4.44798E-02  
Second moment : 1.29383E-02  
Ihno : 1.648  
Tp : 2.599

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy : 9.39918E-03  
Maximum smoothed value : 1.90608E-01  
First moment : 2.19655E-03  
Second moment : 5.96117E-04  
Ihno : .388  
Reflection coefficient : .235

Test Identification : b126-10

Run Identification : b126-10

Raw Data File : b126-10.wrl  
Date of test : 19-FEB-1992 14:12:30

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*

Number of points in boreal smooth : 13  
Total smoothed energy : 3.14096E-01  
Maximum smoothed value : 4.96403E+00  
First moment : 1.13150E-01  
Second moment : 5.45983E-02  
Ihno : 2.242  
Tp : 5.333

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*

Number of points in boreal smooth : 13  
Total smoothed energy : 1.20058E+00  
Maximum smoothed value : 3.93240E+01  
First moment : 4.81692E-01  
Second moment : 1.69598E-01  
Ihno : 5.216  
Tp : 5.333

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in boreal smooth : 13  
Total smoothed energy : 1.81295E-02  
Maximum smoothed value : 1.84031E-01  
First moment : 6.0343E-03  
Second moment : 2.98416E-03  
Ihno : .519  
Tp : 2.599

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*

Number of points in boreal smooth : 13  
Total smoothed energy : 1.63642E+00  
Maximum smoothed value : 3.40091E+01  
First moment : 4.86601E-01  
Second moment : 1.78229E-01  
Ihno : 5.117  
Tp : 5.389

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in boreal smooth : 13  
Total smoothed energy : 9.61209E-03  
Maximum smoothed value : 8.78849E-02  
First moment : 3.00525E-03  
Second moment : 1.52259E-03  
Ihno : .392  
Tp : 2.681

Test Identification ..... : b126-11

Reflection Coefficients for Data File ..... : b126-11.wrl

Water Depth (Feet) ..... = 3.58  
Data Channels used to compute Coefficients .. = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 1.14798E-01  
Maximum smoothed value ..... = 1.16999E+00  
First moment ..... = 2.19158E-02  
Second moment ..... = 5.82078E-03  
I1no ..... = 1.356  
Tp ..... = 3.885

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 3.55248E-03  
Maximum smoothed value ..... = 6.28435E-02  
First moment ..... = 1.10528E-03  
Second moment ..... = 4.13708E-04  
I1no ..... = .239  
Tp ..... = .176  
Reflection coefficient ..... = .203  
\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 6.26618E-02  
Maximum smoothed value ..... = 4.03389E-01  
First moment ..... = 1.48794E-02  
Second moment ..... = 5.66208E-03  
I1no ..... = 1.001  
Tp ..... = 4.531

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.95219E-03  
Maximum smoothed value ..... = 2.21828E-02  
First moment ..... = 1.48921E-03  
Second moment ..... = 8.94388E-04  
I1no ..... = .217  
Tp ..... = .217  
Reflection coefficient ..... = .217  
\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 1.03093E-01  
Maximum smoothed value ..... = 1.17951E+00  
First moment ..... = 1.88452E-02  
Second moment ..... = 4.17011E-03  
I1no ..... = 1.297  
Tp ..... = 5.626

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 3.01750E-03  
Maximum smoothed value ..... = 3.66459E-02  
First moment ..... = 7.47898E-04  
Second moment ..... = 2.19702E-04  
I1no ..... = .220  
Tp ..... = .160  
Reflection coefficient ..... = .160

Test Identification ..... : b126-11

Reflection Coefficients for Data File ..... : b126-11.wrl

Water Depth (Feet) ..... = 3.58  
Data Channels used to compute Coefficients .. = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 8.50936E-02  
Maximum smoothed value ..... = 6.70403E-01  
First moment ..... = 1.88151E-02  
Second moment ..... = 5.43851E-03  
I1no ..... = 1.167  
Tp ..... = 5.626

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 3.52186E-03  
Maximum smoothed value ..... = 4.20502E-02  
First moment ..... = 1.04987E-03  
Second moment ..... = 3.81498E-04  
I1no ..... = .237  
Tp ..... = .203  
Reflection coefficient ..... = .203  
\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 6.25406E-02  
Maximum smoothed value ..... = 3.19031E-01  
First moment ..... = 3.6059E-02  
Second moment ..... = 4.54705E-03  
I1no ..... = 1 0  
Tp ..... = 2.9

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.1988E-03  
Maximum smoothed value ..... = 2.65379E-02  
First moment ..... = 1.0118E-03  
Second moment ..... = 5.63126E-04  
I1no ..... = .188  
Tp ..... = .188  
Reflection coefficient ..... = .188  
\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 7.48600E-02  
Maximum smoothed value ..... = 6.98212E-01  
First moment ..... = 1.53321E-02  
Second moment ..... = 3.76978E-03  
I1no ..... = 1.094  
Tp ..... = 5.626

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 3.23242E-03  
Maximum smoothed value ..... = 1.01963E-01  
First moment ..... = 8.55944E-04  
Second moment ..... = 2.67981E-04  
I1no ..... = .227  
Tp ..... = .208  
Reflection coefficient ..... = .208

Test Identification ..... : b126-11

Run Identification ..... : b126-11

Raw Data File ..... : b126-11.wrl  
Date of test ..... : 19-FEB-1992 14:30:35

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*

Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 1.17009E-01  
Maximum smoothed value ..... = 1.00142E+00  
First moment ..... = 3.52330E-02  
Second moment ..... = 1.44609E-02  
I1no ..... = 1.368  
Tp ..... = 5.626

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*

Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 9.48791E-01  
Maximum smoothed value ..... = 1.02416E+01  
First moment ..... = 2.27155E-01  
Second moment ..... = 6.98408E-02  
I1no ..... = 3.896  
Tp ..... = 5.885

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 1.48160E-02  
Maximum smoothed value ..... = 6.48612E-02  
First moment ..... = 4.09812E-03  
Second moment ..... = 1.97506E-03  
I1no ..... = .487  
Tp ..... = 6.074

\*\*\* Current Meter Summary Lateral Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*

Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 8.55658E-01  
Maximum smoothed value ..... = 9.11798E+00  
First moment ..... = 2.08359E-01  
Second moment ..... = 6.64601E-02  
I1no ..... = 3.700  
Tp ..... = 5.885

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 8.90037E-03  
Maximum smoothed value ..... = 3.96151E-02  
First moment ..... = 2.34212E-03  
Second moment ..... = 1.16151E-03  
I1no ..... = .379  
Tp ..... = 5.565

Test Identification ..... : b126-11

Reflection Coefficients for Data File ..... : b126-11.wrl

Water Depth (Feet) ..... = 3.58

Data Channels used to compute Coefficients ... = 1 2 3

Distance between channels in feet ..... = 7.00 2.50

==== Smoothed spectral densities for DL = 7.0 Ft. =====

==== Incident wave energy ====

Number of points in boresc smooth ..... = 13

Total smoothed energy ..... = 1.14799E-01

Maximum smoothed value ..... = 1.16499E+00

First moment ..... = 2.19358E-02

Second moment ..... = 5.82078E-03

Hmo ..... = 1.356

TP ..... = 5.853

==== Reflected wave energy ====

Total smoothed energy ..... = 3.58248E-03

Maximum smoothed value ..... = 6.26413E-02

First moment ..... = 1.10528E-03

Second moment ..... = 4.13702E-04

Hmo ..... = .239

TP ..... = .176

==== Smoothed spectral densities for DL = 2.5 Ft. =====

==== Incident wave energy ====

Number of points in boresc smooth ..... = 13

Total smoothed energy ..... = 6.56618E-02

Maximum smoothed value ..... = 4.03393E-01

First moment ..... = 1.48794E-02

Second moment ..... = 5.66208E-03

Hmo ..... = 1.001

TP ..... = 4.531

==== Reflected wave energy ====

Total smoothed energy ..... = 2.95219E-03

Maximum smoothed value ..... = 2.21820E-02

First moment ..... = 1.48023E-03

Second moment ..... = 8.94388E-04

Hmo ..... = .217

TP ..... = .217

==== Smoothed spectral densities for DL = 9.5 Ft. =====

==== Incident wave energy ====

Number of points in boresc smooth ..... = 13

Total smoothed energy ..... = 1.05093E-01

Maximum smoothed value ..... = 1.17631E+00

First moment ..... = 1.86452E-02

Second moment ..... = 4.17011E-03

Hmo ..... = 1.297

TP ..... = 5.626

==== Reflected wave energy ====

Total smoothed energy ..... = 3.01750E-03

Maximum smoothed value ..... = 3.66659E-02

First moment ..... = 7.47999E-04

Second moment ..... = 2.19702E-04

Hmo ..... = .228

TP ..... = .169

Test Identification ..... : b126-11

Reflection Coefficients for Data File ..... : b126-11.wrl

Water Depth (Feet) ..... = 3.58

Data Channels used to compute Coefficients ... = 5 6 7

Distance between channels in feet ..... = 7.00 3.00

==== Smoothed spectral densities for DL = 7.0 Ft. =====

==== Incident wave energy ====

Number of points in boresc smooth ..... = 13

Total smoothed energy ..... = 8.5936E-02

Maximum smoothed value ..... = 6.7043E-01

First moment ..... = 1.8815E-02

Second moment ..... = 5.43851E-03

Hmo ..... = 1.167

TP ..... = 5.626

==== Reflected wave energy ====

Total smoothed energy ..... = 3.5218E-03

Maximum smoothed value ..... = 4.2050E-02

First moment ..... = 1.0498E-03

Second moment ..... = 3.8149E-04

Hmo ..... = .237

TP ..... = .203

==== Smoothed spectral densities for DL = 3.0 Ft. =====

==== Incident wave energy ====

Number of points in boresc smooth ..... = 13

Total smoothed energy ..... = 6.2540E-02

Maximum smoothed value ..... = 3.1393E-01

First moment ..... = 1.3605E-02

Second moment ..... = 4.5705E-03

Hmo ..... = 1.000

TP ..... = 2.960

==== Reflected wave energy ====

Total smoothed energy ..... = 2.1998E-03

Maximum smoothed value ..... = 2.6579E-02

First moment ..... = 1.0185E-03

Second moment ..... = 5.6312E-04

Hmo ..... = .188

TP ..... = .188

==== Smoothed spectral densities for DL = 10.0 Ft. =====

==== Incident wave energy ====

Number of points in boresc smooth ..... = 13

Total smoothed energy ..... = 7.4690E-02

Maximum smoothed value ..... = 6.9812E-01

First moment ..... = 1.5332E-02

Second moment ..... = 3.7697E-03

Hmo ..... = 1.094

TP ..... = 5.626

==== Reflected wave energy ====

Total smoothed energy ..... = 3.2342E-03

Maximum smoothed value ..... = 1.0196E-01

First moment ..... = 8.5544E-04

Second moment ..... = 2.6983E-04

Hmo ..... = .227

TP ..... = .208

Test Identification ..... : b126-11

Run Identification ..... : b126-11

Raw Data File ..... : b126-11.wrl

Date of test ..... : 19-FEB-1992 14:30:35

==== Wave Gauge 4 Summary =====

==== Total Wave Energy =====

Number of points in boresc smooth ..... = 13

Total smoothed energy ..... = 1.17009E-01

Maximum smoothed value ..... = 1.00142E+00

First moment ..... = 3.5250E-02

Second moment ..... = 1.44609E-02

Hmo ..... = 1.368

TP ..... = 5.626

==== Current Meter Summary Seaward Gauge =====

==== Horizontal Current Energy Channel 8 =====

Number of points in boresc smooth ..... = 13

Total smoothed energy ..... = 9.48791E-01

Maximum smoothed value ..... = 1.02476E+01

First moment ..... = 2.27155E-01

Second moment ..... = 6.98840E-02

Hmo ..... = 3.896

TP ..... = 5.883

==== Vertical Current Energy Channel 9 =====

Number of points in boresc smooth ..... = 13

Total smoothed energy ..... = 1.4016E-02

Maximum smoothed value ..... = 6.68612E-02

First moment ..... = 4.09612E-03

Second moment ..... = 1.92506E-03

Hmo ..... = .487

TP ..... = 6.024

==== Current Meter Summary Leeward Gauge =====

==== Horizontal Current Energy Channel 10 =====

Number of points in boresc smooth ..... = 13

Total smoothed energy ..... = 8.5658E-01

Maximum smoothed value ..... = 9.11129E+00

First moment ..... = 2.08379E-01

Second moment ..... = 6.64601E-02

Hmo ..... = 3.700

TP ..... = 5.883

==== Vertical Current Energy Channel 11 =====

Number of points in boresc smooth ..... = 13

Total smoothed energy ..... = 8.99037E-03

Maximum smoothed value ..... = 3.96131E-02

First moment ..... = 2.34212E-03

Second moment ..... = 1.16315E-03

Hmo ..... = .379

TP ..... = 5.565

Test Identification ..... : b126-12

Reflection Coefficients for Data File ..... : b126-12.wrl

Water Depth (Feet) ..... = 3.58  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 2.71001E-01  
Maximum smoothed value ..... = 5.75483E+00  
First moment ..... = 6.02468E-02  
Second moment ..... = 1.91060E-02  
Iline ..... = 2.082  
Tp ..... = 5.753

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.85368E-02  
Maximum smoothed value ..... = 1.27028E+00  
First moment ..... = 8.01953E-03  
Second moment ..... = 3.50557E-03  
Iline ..... = .549  
Reflection coefficient ..... = .264

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.27742E-01  
Maximum smoothed value ..... = 1.94543E+00  
First moment ..... = 4.19058E-02  
Second moment ..... = 1.70474E-02  
Iline ..... = 1.430  
Tp ..... = 2.813

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 8.47916E-03  
Maximum smoothed value ..... = 1.87500E-01  
First moment ..... = 4.59014E-03  
Second moment ..... = 2.77703E-03  
Iline ..... = .348  
Reflection coefficient ..... = .258

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 2.20458E-01  
Maximum smoothed value ..... = 5.78737E+00  
First moment ..... = 3.90118E-02  
Second moment ..... = 8.54588E-03  
Iline ..... = 1.878  
Tp ..... = 5.753

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 4.83728E-03  
Maximum smoothed value ..... = 1.60401E-01  
First moment ..... = 1.35001E-03  
Second moment ..... = 3.94688E-04  
Iline ..... = .280  
Reflection coefficient ..... = .149

Test Identification ..... : b126-12

Reflection Coefficients for Data File ..... : b126-12.wrl

Water Depth (Feet) ..... = 3.58  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.8125E-01  
Maximum smoothed value ..... = 3.96894E+00  
First moment ..... = 5.34601E-02  
Second moment ..... = 1.81998E-02  
Iline ..... = 1.730  
Tp ..... = 1.882

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.25595E-02  
Maximum smoothed value ..... = 1.31240E+00  
First moment ..... = 8.61121E-03  
Second moment ..... = 3.66338E-03  
Iline ..... = .601  
Reflection coefficient ..... = .347

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.13650E-01  
Maximum smoothed value ..... = 3.12891E+00  
First moment ..... = 2.58941E-02  
Second moment ..... = 7.50321E-03  
Iline ..... = 1.348  
Tp ..... = 2.829

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.71453E-03  
Maximum smoothed value ..... = 3.8267E-02  
First moment ..... = 1.12016E-03  
Second moment ..... = 5.41331E-04  
Iline ..... = .208  
Reflection coefficient ..... = .155

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.50703E-01  
Maximum smoothed value ..... = 4.14100E+00  
First moment ..... = 3.77149E-02  
Second moment ..... = 1.04251E-02  
Iline ..... = 1.553  
Tp ..... = 2.829

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 5.8259E-03  
Maximum smoothed value ..... = 1.21084E-01  
First moment ..... = 1.20358E-03  
Second moment ..... = 2.94717E-04  
Iline ..... = .306  
Reflection coefficient ..... = .197

Test Identification ..... : b126-12

Run Identification ..... : b126-12

Raw Data File ..... : b126-12.wrl  
Date of test ..... : 19-FEB-1992 14:53:00

\*\*\* Wave Gauge 4 Summary \*\*\*  
\*\*\* Total Wave Energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 2.93797E-01  
Maximum smoothed value ..... = 4.09367E+00  
First moment ..... = 1.07832E-01  
Second moment ..... = 5.33657E-02  
Iline ..... = 2.168  
Tp ..... = 5.753

\*\*\* Current Meter Summary Seaward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.68541E+00  
Maximum smoothed value ..... = 4.23959E+01  
First moment ..... = 4.4678E-01  
Second moment ..... = 1.5246E-01  
Iline ..... = 5.193  
Tp ..... = 5.689

\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.81621E-02  
Maximum smoothed value ..... = 1.91360E-01  
First moment ..... = 5.78494E-03  
Second moment ..... = 2.86756E-03  
Iline ..... = .539  
Tp ..... = 5.689

\*\*\* Current Meter Summary Lateral Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.74977E+00  
Maximum smoothed value ..... = 3.71087E+01  
First moment ..... = 5.07934E-01  
Second moment ..... = 1.87709E-01  
Iline ..... = 5.291  
Tp ..... = 5.753

\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.26656E-02  
Maximum smoothed value ..... = 1.25557E-01  
First moment ..... = 4.11460E-03  
Second moment ..... = 2.13711E-03  
Iline ..... = .450  
Tp ..... = 5.626

Test Identification ..... : b126-13

Reflection Coefficients for Data File ..... : b126-13.wrl

Water Depth (Feet) ..... = 3.58  
Data Channels used to compute Coefficients .. = 1 2 3  
Distance between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 2.60498E-01  
Maximum smoothed value ..... = 6.94001E+00  
First moment ..... = 4.76317E-02  
Second moment ..... = 1.09221E-02  
Line ..... = 2.042  
Tp ..... = 5.172

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 7.49458E-03  
Maximum smoothed value ..... = 1.67449E-01  
First moment ..... = 1.32098E-03  
Second moment ..... = 3.89128E-04  
Line ..... = .346  
Reflection coefficient ..... = .170

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.30750E-01  
Maximum smoothed value ..... = 2.49900E+00  
First moment ..... = 4.11543E-02  
Second moment ..... = 1.55118E-02  
Line ..... = 1.446  
Tp ..... = 2.535

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 6.10048E-03  
Maximum smoothed value ..... = 1.21132E-01  
First moment ..... = 2.75158E-03  
Second moment ..... = 1.39020E-03  
Line ..... = .312  
Reflection coefficient ..... = .216

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 3.12561E-01  
Maximum smoothed value ..... = 6.91504E+00  
First moment ..... = 7.01552E-02  
Second moment ..... = 1.87513E-02  
Line ..... = 2.235  
Tp ..... = 5.172

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.70122E-02  
Maximum smoothed value ..... = 5.56175E-01  
First moment ..... = 5.25415E-03  
Second moment ..... = 1.66417E-03  
Line ..... = .536  
Reflection coefficient ..... = .240

Test Identification ..... : b126-13

Reflection Coefficients for Data File ..... : b126-13.wrl

Water Depth (Feet) ..... = 3.58  
Data Channels used to compute Coefficients .. = 5 6 7  
Distance between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.24001E-01  
Maximum smoothed value ..... = 2.50378E+00  
First moment ..... = 2.76848E-02  
Second moment ..... = 7.53456E-03  
Line ..... = 1.409  
Tp ..... = 2.522

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 5.50071E-03  
Maximum smoothed value ..... = 1.17898E-01  
First moment ..... = 1.13894E-03  
Second moment ..... = 3.07091E-04  
Line ..... = .298  
Reflection coefficient ..... = .212

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.31469E-01  
Maximum smoothed value ..... = 2.16531E+00  
First moment ..... = 2.77411E-02  
Second moment ..... = 1.06708E-02  
Line ..... = 1.450  
Tp ..... = 5.224

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 8.02851E-03  
Maximum smoothed value ..... = 1.66736E-01  
First moment ..... = 3.31894E-03  
Second moment ..... = 1.90930E-03  
Line ..... = .358  
Reflection coefficient ..... = .247

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.51798E-01  
Maximum smoothed value ..... = 3.55282E+00  
First moment ..... = 3.96576E-02  
Second moment ..... = 1.17907E-02  
Line ..... = 1.558  
Tp ..... = 2.510

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.24050E-02  
Maximum smoothed value ..... = 3.54429E-01  
First moment ..... = 3.51201E-03  
Second moment ..... = 1.09682E-03  
Line ..... = .446  
Reflection coefficient ..... = .266

Test Identification ..... : b126-13

Run Identification ..... : b126-13

Raw Data File ..... : b126-13.wrl  
Date of test ..... : 19-FEB-1992 15:08:08

\*\*\* Wave Gauge 4 Summary \*\*\*  
\*\*\* Total Wave Energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 3.03794E-01  
Maximum smoothed value ..... = 5.22653E+00  
First moment ..... = 1.09407E-01  
Second moment ..... = 5.46669E-02  
Line ..... = 2.203  
Tp ..... = 5.172

\*\*\* Current Meter Summary Seaward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.91977E+00  
Maximum smoothed value ..... = 4.66267E+01  
First moment ..... = 5.32347E-01  
Second moment ..... = 1.95699E-01  
Line ..... = 5.542  
Tp ..... = 5.224

\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 2.17198E-02  
Maximum smoothed value ..... = 2.39588E-01  
First moment ..... = 7.30488E-03  
Second moment ..... = 3.50779E-03  
Line ..... = .590  
Tp ..... = 2.560

\*\*\* Current Meter Summary Leeward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.41931E+00  
Maximum smoothed value ..... = 2.97010E+01  
First moment ..... = 4.36641E-01  
Second moment ..... = 1.63351E-01  
Line ..... = 4.765  
Tp ..... = 5.172

\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.07533E-02  
Maximum smoothed value ..... = 1.03488E-01  
First moment ..... = 3.61529E-03  
Second moment ..... = 1.90850E-03  
Line ..... = .414  
Tp ..... = 2.547

Test Identification : b126-14

Reflection Coefficients for Data file : b126-14.wrl

Water Depth (Feet) : 2.39  
Data Channels used to compute Coefficients : 1 2 3  
Distances between channels in feet : 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 7.0377E-03  
Maximum smoothed value : 2.28003E+00  
First moment : 1.92177E-02  
Second moment : 2.00401E-03  
Hmo : 1.060  
Tp : 5.333

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 1.95948E-03  
Maximum smoothed value : 6.16228E-02  
First moment : 3.12198E-04  
Second moment : 6.06608E-05  
Hmo : .177  
Reflection coefficient : .167  
\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 8.55177E-02  
Maximum smoothed value : 1.77034E+00  
First moment : 2.64399E-02  
Second moment : 1.43714E-02  
Hmo : 1.170  
Tp : 5.389

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 6.39735E-03  
Maximum smoothed value : 2.06488E-01  
First moment : 4.33912E-03  
Second moment : 3.13938E-03  
Hmo : .320  
Reflection coefficient : .274  
\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 6.69678E-02  
Maximum smoothed value : 2.32014E+00  
First moment : 1.06011E-02  
Second moment : 1.86297E-03  
Hmo : 1.035  
Tp : 5.333

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 2.33359E-03  
Maximum smoothed value : 6.06227E-02  
First moment : 4.83595E-04  
Second moment : 1.17157E-04  
Hmo : .194  
Reflection coefficient : .187

Test Identification : b126-14

Reflection Coefficients for Data file : b126-14.wrl

Water Depth (Feet) : 2.39  
Data Channels used to compute Coefficients : 5 6 7  
Distances between channels in feet : 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 3.9684E-02  
Maximum smoothed value : 1.08942E+00  
First moment : 1.01583E-02  
Second moment : 2.89161E-03  
Hmo : .797  
Tp : 2.626

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 1.58959E-03  
Maximum smoothed value : 5.27994E-02  
First moment : 2.3719E-04  
Second moment : 4.24388E-05  
Hmo : .159  
Reflection coefficient : .200  
\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 5.14937E-02  
Maximum smoothed value : 1.12945E+00  
First moment : 1.3394E-02  
Second moment : 4.72344E-03  
Hmo : .908  
Tp : 2.612

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 1.15562E-03  
Maximum smoothed value : 1.70370E-02  
First moment : 4.74195E-04  
Second moment : 2.41057E-04  
Hmo : .136  
Reflection coefficient : .150  
\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.3032E-02  
Maximum smoothed value : 4.97368E-01  
First moment : 1.89669E-03  
Second moment : 2.80650E-04  
Hmo : .457  
Tp : 5.333

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 1.20183E-03  
Maximum smoothed value : 4.2593E-02  
First moment : 1.86180E-04  
Second moment : 3.10385E-05  
Hmo : .139  
Reflection coefficient : .304

Test Identification : b126-14

Run Identification : b126-14

Raw Data File : b126-14.wrl  
Date of test : 19-FEB-1992 16:30:03

\*\*\* Wave Gauge 4 Summary \*\*\*  
\*\*\* Total Wave Energy \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.50978E-01  
Maximum smoothed value : 1.47212E+00  
First moment : 6.16716E-02  
Second moment : 3.30697E-01  
Hmo : 1.554  
Tp : 5.333

\*\*\* Current Meter Summary Seaward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 8.60040E-01  
Maximum smoothed value : 1.60998E+01  
First moment : 3.00387E-01  
Second moment : 1.3793E-01  
Hmo : 3.710  
Tp : 5.389

\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.08178E-02  
Maximum smoothed value : 1.15866E-01  
First moment : 4.78000E-03  
Second moment : 2.86689E-03  
Hmo : .416  
Tp : 1.809

\*\*\* Current Meter Summary Leeward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.04544E+00  
Maximum smoothed value : 1.48603E+01  
First moment : 3.83246E-01  
Second moment : 1.73127E-01  
Hmo : 4.090  
Tp : 5.389

\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.35186E-02  
Maximum smoothed value : 1.12363E-01  
First moment : 4.47217E-03  
Second moment : 2.4384E-03  
Hmo : .465  
Tp : 2.718

Test Identification ..... : b126-15

Reflection Coefficients for Data File ..... : b126-15.wrl

Water Depth (Feet) ..... = 2.39

Data Channels used to compute Coefficients ... = 1 2 3

Distance between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 5.94316E-02  
Maximum smoothed value ..... = 7.20787E-01  
First moment ..... = 1.09412E-02  
Second moment ..... = 2.65918E-03  
I1no ..... = .947  
Tp ..... = 5.689

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.91501E-03  
Maximum smoothed value ..... = 3.32316E-02  
First moment ..... = 7.73738E-04  
Second moment ..... = 2.51218E-04  
I1no ..... = .216  
Reflection coefficient ..... = .223

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 4.50159E-02  
Maximum smoothed value ..... = 5.16740E-01  
First moment ..... = 1.09879E-02  
Second moment ..... = 4.70048E-03  
I1no ..... = .849  
Tp ..... = 5.447

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.52500E-03  
Maximum smoothed value ..... = 1.77853E-02  
First moment ..... = 1.16533E-03  
Second moment ..... = 7.15448E-04  
I1no ..... = .201  
Reflection coefficient ..... = .237

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 5.42268E-02  
Maximum smoothed value ..... = 7.43017E-01  
First moment ..... = 9.14653E-03  
Second moment ..... = 1.93248E-03  
I1no ..... = .931  
Tp ..... = 5.689

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 3.11079E-03  
Maximum smoothed value ..... = 4.33548E-02  
First moment ..... = 7.15716E-04  
Second moment ..... = 1.90932E-04  
I1no ..... = .223  
Reflection coefficient ..... = .240

Test Identification ..... : b126-15

Reflection Coefficients for Data File ..... : b126-15.wrl

Water Depth (Feet) ..... = 2.39

Data Channels used to compute Coefficients ... = 5 6 7

Distance between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 4.17161E-02  
Maximum smoothed value ..... = 2.66265E-01  
First moment ..... = 1.07198E-02  
Second moment ..... = 3.30653E-03  
I1no ..... = .817  
Tp ..... = 5.626

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.5994E-03  
Maximum smoothed value ..... = 2.95390E-02  
First moment ..... = 7.11678E-04  
Second moment ..... = 2.36275E-04  
I1no ..... = .204  
Reflection coefficient ..... = .250

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 4.4352E-02  
Maximum smoothed value ..... = 2.36820E-01  
First moment ..... = 1.19410E-02  
Second moment ..... = 4.64206E-03  
I1no ..... = .841  
Tp ..... = 5.626

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.62090E-03  
Maximum smoothed value ..... = 1.69387E-02  
First moment ..... = 6.53561E-04  
Second moment ..... = 3.62310E-04  
I1no ..... = .161  
Reflection coefficient ..... = .191

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 2.60031E-02  
Maximum smoothed value ..... = 2.85988E-01  
First moment ..... = 4.95540E-03  
Second moment ..... = 1.09873E-03  
I1no ..... = .645  
Tp ..... = 5.626

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.57971E-03  
Maximum smoothed value ..... = 1.15693E-01  
First moment ..... = 5.96541E-04  
Second moment ..... = 1.60801E-04  
I1no ..... = .203  
Reflection coefficient ..... = .315

Test Identification ..... : b126-15

Run Identification ..... : b126-15

Raw Data File ..... : b126-15.wrl

Date of test ..... : 19-FEB-1992 16:52:24

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 6.69646E-02  
Maximum smoothed value ..... = 6.24555E-01  
First moment ..... = 2.14146E-02  
Second moment ..... = 9.64104E-03  
I1no ..... = 1.035  
Tp ..... = 5.626

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 7.53788E-01  
Maximum smoothed value ..... = 7.10268E+00  
First moment ..... = 1.99938E-01  
Second moment ..... = 7.28159E-02  
I1no ..... = 3.473  
Tp ..... = 5.689

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.64909E-02  
Maximum smoothed value ..... = 6.90848E-02  
First moment ..... = 4.38133E-03  
Second moment ..... = 2.25667E-03  
I1no ..... = .514  
Tp ..... = 64.000

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 6.67602E-01  
Maximum smoothed value ..... = 6.63995E+00  
First moment ..... = 1.81934E-01  
Second moment ..... = 6.81379E-02  
I1no ..... = 3.268  
Tp ..... = 5.626

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 9.89963E-03  
Maximum smoothed value ..... = 2.57198E-02  
First moment ..... = 2.95423E-03  
Second moment ..... = 1.5624E-03  
I1no ..... = .398  
Tp ..... = 36.571



Test Identification ..... : b126-16

Reflection Coefficients for Data File ..... : b126-16.wrl

Water Depth (Feet) ..... = 2.39  
Data Channels used to compute Coefficients ... = 1 2 3  
Distance between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 9.37603E-02  
Maximum smoothed value ..... = 2.34536E+00  
First moment ..... = 1.67162E-02  
Second moment ..... = 4.20352E-03  
Hmo ..... = 1.225  
Tp ..... = 6.169

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 3.63199E-03  
Maximum smoothed value ..... = 1.57808E-01  
First moment ..... = 1.15333E-03  
Second moment ..... = 4.36438E-04  
Hmo ..... = .241  
Tp ..... = .197  
\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 4.33148E-02  
Maximum smoothed value ..... = 6.97016E-01  
First moment ..... = 1.50403E-02  
Second moment ..... = 6.68842E-03  
Hmo ..... = .833  
Tp ..... = 3.160

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.51019E-03  
Maximum smoothed value ..... = 2.69791E-02  
First moment ..... = 7.86105E-04  
Second moment ..... = 4.50548E-04  
Hmo ..... = .155  
Tp ..... = .187  
\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 8.52633E-02  
Maximum smoothed value ..... = 2.39031E+00  
First moment ..... = 1.34759E-02  
Second moment ..... = 2.57576E-03  
Hmo ..... = 1.168  
Tp ..... = 6.169

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.22743E-03  
Maximum smoothed value ..... = 5.56822E-02  
First moment ..... = 3.79999E-04  
Second moment ..... = 7.89748E-05  
Hmo ..... = .189  
Tp ..... = .163

Test Identification ..... : b126-16

Reflection Coefficients for Data File ..... : b126-16.wrl

Water Depth (Feet) ..... = 2.39  
Data Channels used to compute Coefficients ... = 5 6 7  
Distance between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 5.72691E-02  
Maximum smoothed value ..... = 2.42196E+00  
First moment ..... = 1.83180E-02  
Second moment ..... = 6.87525E-03  
Hmo ..... = .957  
Tp ..... = 2.065

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 5.82795E-03  
Maximum smoothed value ..... = 3.73347E-01  
First moment ..... = 2.33502E-03  
Second moment ..... = 9.57125E-04  
Hmo ..... = .305  
Tp ..... = .319  
\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 4.63799E-02  
Maximum smoothed value ..... = 8.24541E-01  
First moment ..... = 1.42358E-02  
Second moment ..... = 6.09606E-03  
Hmo ..... = .861  
Tp ..... = 2.073

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.29167E-03  
Maximum smoothed value ..... = 5.64814E-02  
First moment ..... = 1.23208E-03  
Second moment ..... = 7.54556E-04  
Hmo ..... = .191  
Tp ..... = .222  
\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 2.54151E-02  
Maximum smoothed value ..... = 5.59511E-01  
First moment ..... = 4.76298E-03  
Second moment ..... = 1.05743E-03  
Hmo ..... = .638  
Tp ..... = 6.169

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 9.97114E-04  
Maximum smoothed value ..... = 2.72682E-02  
First moment ..... = 2.39547E-04  
Second moment ..... = 6.2081E-05  
Hmo ..... = .126  
Tp ..... = .198

Test Identification ..... : b126-16

Run Identification ..... : b126-16

Raw Data File ..... : b126-16.wrl  
Date of test ..... : 20-FEB-1992 08:23:53

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*  
Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 1.01659E-01  
Maximum smoothed value ..... = 1.48973E+00  
First moment ..... = 3.80329E-02  
Second moment ..... = 2.09793E-02  
Hmo ..... = 1.275  
Tp ..... = 6.169

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 1.09830E+00  
Maximum smoothed value ..... = 2.81110E+01  
First moment ..... = 2.90674E-01  
Second moment ..... = 1.13071E-01  
Hmo ..... = 4.192  
Tp ..... = 6.169

\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 1.28747E-02  
Maximum smoothed value ..... = 1.80492E-01  
First moment ..... = 3.97099E-03  
Second moment ..... = 2.10655E-03  
Hmo ..... = .454  
Tp ..... = 5.953

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 8.34320E-01  
Maximum smoothed value ..... = 2.56763E-01  
First moment ..... = 1.09827E-01  
Second moment ..... = 3.662  
Tp ..... = 6.169

\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 1.19038E-02  
Maximum smoothed value ..... = 1.00261E-01  
First moment ..... = 3.76218E-03  
Second moment ..... = 2.08453E-03  
Hmo ..... = .436  
Tp ..... = 6.244

Test Identification ..... : b126-17

Reflection Coefficients for Data File ..... : b126-17.wrl

Water Depth (Feet) ..... = 2.39  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 1.0303E-01  
Maximum smoothed value ..... = 2.3777E-01  
First moment ..... = 2.6133E-02  
Second moment ..... = 2.7781E-03  
Hsno ..... = 1.284  
Tp ..... = 4.491

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 4.8894E-03  
Maximum smoothed value ..... = 1.6722E-01  
First moment ..... = 1.7327E-03  
Second moment ..... = 6.4617E-04  
Hsno ..... = .280  
Reflection coefficient ..... = .218  
\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 1.0339E-01  
Maximum smoothed value ..... = 1.8427E-01  
First moment ..... = 2.8078E-02  
Second moment ..... = 1.3394E-03  
Hsno ..... = 1.287  
Tp ..... = 4.531

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 4.6621E-03  
Maximum smoothed value ..... = 1.2537E-01  
First moment ..... = 2.8410E-03  
Second moment ..... = 1.8052E-03  
Hsno ..... = .273  
Reflection coefficient ..... = .212  
\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 6.0497E-02  
Maximum smoothed value ..... = 2.3219E-01  
First moment ..... = 1.6574E-02  
Second moment ..... = 1.5500E-03  
Hsno ..... = .983  
Tp ..... = 4.531

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 3.6732E-04  
Maximum smoothed value ..... = 1.2515E-02  
First moment ..... = 6.5704E-05  
Second moment ..... = 1.2877E-05  
Hsno ..... = .077  
Reflection coefficient ..... = .078

Test Identification ..... : b126-17

Reflection Coefficients for Data File ..... : b126-17.wrl

Water Depth (Feet) ..... = 2.39  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 1.3242E-01  
Maximum smoothed value ..... = 4.1434E-01  
First moment ..... = 4.4618E-02  
Second moment ..... = 1.6084E-02  
Hsno ..... = 1.455  
Tp ..... = 2.207

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 7.3893E-03  
Maximum smoothed value ..... = 2.0716E-01  
First moment ..... = 2.3745E-03  
Second moment ..... = 8.3650E-04  
Hsno ..... = .344  
Reflection coefficient ..... = .236  
\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 1.09950E-01  
Maximum smoothed value ..... = 2.6428E-01  
First moment ..... = 2.8576E-02  
Second moment ..... = 9.3467E-03  
Hsno ..... = 1.326  
Tp ..... = 2.207

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.5070E-03  
Maximum smoothed value ..... = 5.4857E-02  
First moment ..... = 6.3704E-04  
Second moment ..... = 2.7759E-04  
Hsno ..... = .200  
Reflection coefficient ..... = .151  
\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 3.0174E-02  
Maximum smoothed value ..... = 1.1678E-01  
First moment ..... = 5.3912E-03  
Second moment ..... = 9.6630E-04  
Hsno ..... = .695  
Tp ..... = 4.531

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.8279E-03  
Maximum smoothed value ..... = 1.0657E-01  
First moment ..... = 5.1042E-04  
Second moment ..... = 9.3094E-05  
Hsno ..... = .213  
Reflection coefficient ..... = .306

Test Identification ..... : b126-17

Run Identification ..... : b126-17

Raw Data File ..... : b126-17.wrl  
Date of test ..... : 20-FEB-1992 08:35:37

\*\*\* Wave Gauge 4 Summary \*\*\*  
\*\*\* Total Wave Energy \*\*\*

Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 9.5003E-02  
Maximum smoothed value ..... = 1.5503E+00  
First moment ..... = 3.8343E-02  
Second moment ..... = 1.8682E-02  
Hsno ..... = 1.233  
Tp ..... = 2.216

\*\*\* Current Meter Summary Seaward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 8 \*\*\*

Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 9.8493E-01  
Maximum smoothed value ..... = 1.7312E+01  
First moment ..... = 3.5007E-01  
Second moment ..... = 1.5504E-01  
Hsno ..... = 3.974  
Tp ..... = 4.531

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 1.5004E-02  
Maximum smoothed value ..... = 2.0837E-01  
First moment ..... = 5.7894E-03  
Second moment ..... = 3.0405E-03  
Hsno ..... = .490  
Tp ..... = 2.207

\*\*\* Current Meter Summary L seaward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 10 \*\*\*

Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 9.8259E-01  
Maximum smoothed value ..... = 1.9385E+01  
First moment ..... = 3.6946E-01  
Second moment ..... = 1.6035E-01  
Hsno ..... = 3.965  
Tp ..... = 2.216

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in beamer smooth ..... = 13  
Total smoothed energy ..... = 8.7792E-03  
Maximum smoothed value ..... = 1.2766E-01  
First moment ..... = 3.0021E-03  
Second moment ..... = 1.5150E-03  
Hsno ..... = .375  
Tp ..... = 4.491

Test Identification ..... : b126-18

Refraction Coefficients for Data file ..... : b126-18.wrl

Water Depth (Feet) ..... = 2.39

Data Channels used to compute Coefficients ... = 1 2 3

Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in bucket smooth ..... = 13

Total smoothed energy ..... = 7.09908E-02

Maximum smoothed value ..... = 2.73369E+00

First moment ..... = 1.35678E-02

Second moment ..... = 2.41335E-03

Hlmo ..... = 1.045

Tp ..... = 3.969

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 1.81677E-03

Maximum smoothed value ..... = 6.57488E-02

First moment ..... = 3.64193E-04

Second moment ..... = 7.74448E-05

Hlmo ..... = .178

Refraction coefficient ..... = .160

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in bucket smooth ..... = 13

Total smoothed energy ..... = 1.32008E-01

Maximum smoothed value ..... = 2.27100E+00

First moment ..... = 3.38159E-02

Second moment ..... = 1.24822E-02

Hlmo ..... = 1.459

Tp ..... = 3.969

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 4.43348E-03

Maximum smoothed value ..... = 9.40124E-02

First moment ..... = 1.19278E-03

Second moment ..... = 5.36773E-04

Hlmo ..... = .267

Refraction coefficient ..... = .183

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in bucket smooth ..... = 13

Total smoothed energy ..... = 7.28687E-02

Maximum smoothed value ..... = 2.81887E+00

First moment ..... = 1.50445E-02

Second moment ..... = 3.11448E-03

Hlmo ..... = 1.080

Tp ..... = 3.969

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 2.99121E-03

Maximum smoothed value ..... = 1.12108E-01

First moment ..... = 6.24499E-04

Second moment ..... = 1.31677E-04

Hlmo ..... = .219

Refraction coefficient ..... = .203

Test Identification ..... : b126-18

Refraction Coefficients for Data file ..... : b126-18.wrl

Water Depth (Feet) ..... = 2.39

Data Channels used to compute Coefficients ... = 5 6 7

Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in bucket smooth ..... = 13

Total smoothed energy ..... = 6.21197E-02

Maximum smoothed value ..... = 2.38798E+00

First moment ..... = 1.19393E-02

Second moment ..... = 2.32056E-03

Hlmo ..... = .997

Tp ..... = 3.969

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 3.79548E-04

Maximum smoothed value ..... = 1.77811E-02

First moment ..... = 9.43302E-05

Second moment ..... = 2.83617E-05

Hlmo ..... = .077

Refraction coefficient ..... = .077

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in bucket smooth ..... = 13

Total smoothed energy ..... = 9.44958E-02

Maximum smoothed value ..... = 2.54225E+00

First moment ..... = 2.10569E-02

Second moment ..... = 7.97627E-03

Hlmo ..... = 1.230

Tp ..... = 3.969

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 4.06022E-03

Maximum smoothed value ..... = 7.25480E-02

First moment ..... = 1.41338E-03

Second moment ..... = 7.21188E-04

Hlmo ..... = .255

Refraction coefficient ..... = .207

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in bucket smooth ..... = 13

Total smoothed energy ..... = 7.17244E-02

Maximum smoothed value ..... = 2.77708E+00

First moment ..... = 1.50889E-02

Second moment ..... = 3.18100E-03

Hlmo ..... = 1.071

Tp ..... = 3.969

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy ..... = 1.20048E-03

Maximum smoothed value ..... = 4.42378E-02

First moment ..... = 2.54139E-04

Second moment ..... = 5.44861E-05

Hlmo ..... = .139

Refraction coefficient ..... = .129

Test Identification ..... : b126-18

Run Identification ..... : b126-18

Raw Data File ..... : b126-18.wrl

Date of test ..... : 20-FEB-1992 08:56:01

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*

Number of points in bucket smooth ..... = 13

Total smoothed energy ..... = 1.50129E-01

Maximum smoothed value ..... = 2.33461E+00

First moment ..... = 5.88111E-02

Second moment ..... = 2.94581E-02

Hlmo ..... = 1.550

Tp ..... = 3.969

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*

Number of points in bucket smooth ..... = 13

Total smoothed energy ..... = 1.98028E+00

Maximum smoothed value ..... = 5.24139E+01

First moment ..... = 4.51756E-01

Second moment ..... = 1.85777E-01

Hlmo ..... = 5.629

Tp ..... = 73.143

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in bucket smooth ..... = 13

Total smoothed energy ..... = 5.26717E-02

Maximum smoothed value ..... = 6.57009E+00

First moment ..... = 7.95891E-03

Second moment ..... = 3.97447E-03

Hlmo ..... = .918

Tp ..... = 73.143

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*

Number of points in bucket smooth ..... = 13

Total smoothed energy ..... = 9.30816E-01

Maximum smoothed value ..... = 1.94179E+01

First moment ..... = 3.33129E-01

Second moment ..... = 1.59130E-01

Hlmo ..... = 3.859

Tp ..... = 3.969

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in bucket smooth ..... = 13

Total smoothed energy ..... = 7.34290E-03

Maximum smoothed value ..... = 1.19402E-01

First moment ..... = 2.87249E-03

Second moment ..... = 1.61750E-03

Hlmo ..... = .343

Tp ..... = 1.939

Test Identification ..... : b126-19

Reflection Coefficients for Data file ..... : b126-19.wrl

Water Depth (Feet) ..... = 1.19  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy =====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.4408E-02  
Maximum smoothed value ..... = 4.20850E-01  
First moment ..... = 2.6227E-03  
Second moment ..... = 5.6925E-04  
Hmo ..... = .481  
Tp ..... = 5.333

==== Reflected wave energy =====  
Total smoothed energy ..... = 9.1601E-04  
Maximum smoothed value ..... = 6.8101E-02  
First moment ..... = 2.7246E-04  
Second moment ..... = 8.4791E-05  
Hmo ..... = .121  
Tp ..... = .253

==== Smoothed spectral densities for DL = 2.5 Ft. =====  
==== Incident wave energy =====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.3700E-02  
Maximum smoothed value ..... = 3.8008E-01  
First moment ..... = 3.1610E-03  
Second moment ..... = 1.3954E-03  
Hmo ..... = .469  
Tp ..... = 5.389

==== Reflected wave energy =====  
Total smoothed energy ..... = 1.1780E-03  
Maximum smoothed value ..... = 3.5910E-02  
First moment ..... = 1.9875E-04  
Second moment ..... = 8.4204E-05  
Hmo ..... = .137  
Tp ..... = .293

==== Smoothed spectral densities for DL = 9.5 Ft. =====  
==== Incident wave energy =====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.8929E-02  
Maximum smoothed value ..... = 7.3127E-01  
First moment ..... = 2.9074E-03  
Second moment ..... = 4.4600E-04  
Hmo ..... = .550  
Tp ..... = 5.333

==== Reflected wave energy =====  
Total smoothed energy ..... = 1.5178E-03  
Maximum smoothed value ..... = 5.7374E-02  
First moment ..... = 2.3561E-04  
Second moment ..... = 3.6908E-05  
Hmo ..... = .156  
Tp ..... = .283

Test Identification ..... : b126-19

Reflection Coefficients for Data file ..... : b126-19.wrl

Water Depth (Feet) ..... = 1.19  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy =====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 7.9815E-03  
Maximum smoothed value ..... = 5.40834E-01  
First moment ..... = 2.6053E-03  
Second moment ..... = 6.8718E-04  
Hmo ..... = .357  
Tp ..... = 2.695

==== Reflected wave energy =====  
Total smoothed energy ..... = 2.33594E-03  
Maximum smoothed value ..... = 1.74648E-01  
First moment ..... = 6.98144E-04  
Second moment ..... = 2.16948E-04  
Hmo ..... = .193  
Tp ..... = .541

==== Smoothed spectral densities for DL = 3.0 Ft. =====  
==== Incident wave energy =====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.53465E-02  
Maximum smoothed value ..... = 3.2050E-01  
First moment ..... = 6.13109E-03  
Second moment ..... = 2.7601E-03  
Hmo ..... = .496  
Tp ..... = 1.796

==== Reflected wave energy =====  
Total smoothed energy ..... = 7.84420E-04  
Maximum smoothed value ..... = 9.9050E-03  
First moment ..... = 3.1638E-04  
Second moment ..... = 1.6476E-04  
Hmo ..... = .112  
Tp ..... = .226

==== Smoothed spectral densities for DL = 10.0 Ft. =====  
==== Incident wave energy =====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 2.83463E-03  
Maximum smoothed value ..... = 1.08981E-01  
First moment ..... = 4.40029E-04  
Second moment ..... = 6.86298E-05  
Hmo ..... = .213  
Tp ..... = 5.389

==== Reflected wave energy =====  
Total smoothed energy ..... = 1.75251E-04  
Maximum smoothed value ..... = 6.04500E-03  
First moment ..... = 2.73703E-05  
Second moment ..... = 4.4022E-06  
Hmo ..... = .053  
Tp ..... = .249

Test Identification ..... : b126-19

Run Identification ..... : b126-19

Raw Data File ..... : b126-19.wrl  
Date of test ..... : 20-FEB-1992 10:13:34

==== Wave Gauge 4 Summary =====  
==== Total Wave Energy =====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 2.2267E-02  
Maximum smoothed value ..... = 3.7793E-01  
First moment ..... = 1.19311E-03  
Second moment ..... = 8.26203E-03  
Hmo ..... = .596  
Tp ..... = 1.333

==== Current Meter Summary Seaward Gauge =====  
==== Horizontal Current Energy Channel 8 =====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 4.38431E-01  
Maximum smoothed value ..... = 9.41541E+00  
First moment ..... = 1.55992E-01  
Second moment ..... = 8.0124E-02  
Hmo ..... = 2.649  
Tp ..... = 5.389

==== Vertical Current Energy Channel 9 =====  
Number of points in borear smooth ..... = 13

Total smoothed energy ..... = 1.0544E-02  
Maximum smoothed value ..... = 8.98797E-02  
First moment ..... = 4.64432E-03  
Second moment ..... = 3.0677E-03  
Hmo ..... = .411  
Tp ..... = 1.347

==== Current Meter Summary Leeward Gauge =====  
==== Horizontal Current Energy Channel 10 =====

Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 3.24156E-01  
Maximum smoothed value ..... = 4.20013E+00  
First moment ..... = 1.69458E-01  
Second moment ..... = 1.03486E-01  
Hmo ..... = 2.278  
Tp ..... = 1.796

==== Vertical Current Energy Channel 11 =====  
Number of points in borear smooth ..... = 13

Total smoothed energy ..... = 9.7877E-03  
Maximum smoothed value ..... = 1.63060E-01  
First moment ..... = 4.7267E-03  
Second moment ..... = 3.23451E-03  
Hmo ..... = .596  
Tp ..... = 1.337

Test Identification ..... : b126-20

Reflection Coefficients for Data file ..... : b126-20.wrl

Water Depth (Feet) ..... = 1.19  
Data Channels used to compute Coefficients ... = 1 2 3  
Distance between channels in feet ..... = 7.00 2.50

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy ====

Number of points in boxcar smooth	..... = 13
Total smoothed energy	..... = 1.0669E-02
Maximum smoothed value	..... = 1.3791E-01
First moment	..... = 1.8975E-03
Second moment	..... = 3.6092E-04
Hlmo	..... = .417
Tp	..... = 5.503

==== Reflected wave energy ====

Total smoothed energy	..... = 1.4071E-03
Maximum smoothed value	..... = 2.3091E-02
First moment	..... = 2.8790E-04
Second moment	..... = 7.0475E-05
Hlmo	..... = .150
Reflection coefficient	..... = .360

==== Smoothed spectral densities for DL = 2.5 Ft. =====  
==== Incident wave energy ====

Number of points in boxcar smooth	..... = 13
Total smoothed energy	..... = 1.0163E-02
Maximum smoothed value	..... = 9.4325E-02
First moment	..... = 2.5135E-03
Second moment	..... = 1.2031E-03
Hlmo	..... = .403
Tp	..... = 5.503

==== Reflected wave energy ====

Total smoothed energy	..... = 7.4760E-04
Maximum smoothed value	..... = 6.9790E-03
First moment	..... = 2.4203E-04
Second moment	..... = 1.4250E-04
Hlmo	..... = .109
Reflection coefficient	..... = .771

==== Smoothed spectral densities for DL = 9.5 Ft. =====  
==== Incident wave energy ====

Number of points in boxcar smooth	..... = 13
Total smoothed energy	..... = 1.63349E-02
Maximum smoothed value	..... = 2.44057E-01
First moment	..... = 2.57257E-03
Second moment	..... = 4.29787E-04
Hlmo	..... = .511
Tp	..... = 5.503

==== Reflected wave energy ====

Total smoothed energy	..... = 3.34742E-03
Maximum smoothed value	..... = 4.33408E-02
First moment	..... = 5.52057E-04
Second moment	..... = 9.84731E-05
Hlmo	..... = .231
Reflection coefficient	..... = .453

Test Identification ..... : b126-20

Reflection Coefficients for Data file ..... : b126-20.wrl

Water Depth (Feet) ..... = 1.19  
Data Channels used to compute Coefficients ... = 5 6 7  
Distance between channels in feet ..... = 7.00 3.00

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy ====

Number of points in boxcar smooth	..... = 13
Total smoothed energy	..... = 7.2154E-03
Maximum smoothed value	..... = 1.4 9E-01
First moment	..... = 1.6203E-03
Second moment	..... = 4.4285E-04
Hlmo	..... = .328
Tp	..... = 2.753

==== Reflected wave energy ====

Total smoothed energy	..... = 1.26344E-03
Maximum smoothed value	..... = 2.86335E-02
First moment	..... = 2.93589E-04
Second moment	..... = 8.04223E-05
Hlmo	..... = .142
Reflection coefficient	..... = .434

==== Smoothed spectral densities for DL = 3.0 Ft. =====  
==== Incident wave energy ====

Number of points in boxcar smooth	..... = 13
Total smoothed energy	..... = 1.14668E-02
Maximum smoothed value	..... = 4.30712E-02
First moment	..... = 4.4178E-03
Second moment	..... = 2.05366E-03
Hlmo	..... = .428
Tp	..... = 2.753

==== Reflected wave energy ====

Total smoothed energy	..... = 6.26381E-04
Maximum smoothed value	..... = 5.82760E-03
First moment	..... = 1.84056E-04
Second moment	..... = 8.55459E-05
Hlmo	..... = .100
Reflection coefficient	..... = .234

==== Smoothed spectral densities for DL = 10.0 Ft. =====  
==== Incident wave energy ====

Number of points in boxcar smooth	..... = 13
Total smoothed energy	..... = 5.62019E-03
Maximum smoothed value	..... = 3.33897E-01
First moment	..... = 8.9038E-04
Second moment	..... = 1.57059E-04
Hlmo	..... = .300
Tp	..... = 3.821

==== Reflected wave energy ====

Total smoothed energy	..... = 2.29874E-03
Maximum smoothed value	..... = 2.97318E-01
First moment	..... = 3.94270E-04
Second moment	..... = 7.54160E-05
Hlmo	..... = .192
Reflection coefficient	..... = .640

Test Identification ..... : b126-20

Run Identification ..... : b126-20

Raw Data File ..... : b126-20.wrl  
Date of test ..... : 20-FEB-1992 10:38:01

==== Wave Gauge 4 Summary =====  
==== Total Wave Energy ====

Number of points in boxcar smooth	..... = 13
Total smoothed energy	..... = 1.36971E-02
Maximum smoothed value	..... = 9.98174E-02
First moment	..... = 4.3158E-03
Second moment	..... = 2.32072E-03
Hlmo	..... = .468
Tp	..... = 5.503

==== Current Meter Summary Seaward Gauge =====  
==== Horizontal Current Energy Channel 8 ====

Number of points in boxcar smooth	..... = 13
Total smoothed energy	..... = 3.4811E-01
Maximum smoothed value	..... = 2.47474E+00
First moment	..... = 1.12372E-01
Second moment	..... = 5.35024E-02
Hlmo	..... = 2.352
Tp	..... = 5.503

==== Vertical Current Energy Channel 9 ====

Number of points in boxcar smooth	..... = 13
Total smoothed energy	..... = 1.21316E-02
Maximum smoothed value	..... = 3.01144E-02
First moment	..... = 4.13361E-03
Second moment	..... = 2.41976E-03
Hlmo	..... = .441
Tp	..... = 73.143

==== Current Meter Summary Leeward Gauge =====  
==== Horizontal Current Energy Channel 10 ====

Number of points in boxcar smooth	..... = 13
Total smoothed energy	..... = 2.49609E-01
Maximum smoothed value	..... = 1.86531E+00
First moment	..... = 7.67950E-02
Second moment	..... = 3.74325E-02
Hlmo	..... = 1.998
Tp	..... = 5.885

==== Vertical Current Energy Channel 11 ====

Number of points in boxcar smooth	..... = 13
Total smoothed energy	..... = 5.73809E-03
Maximum smoothed value	..... = 1.14815E-02
First moment	..... = 2.16437E-03
Second moment	..... = 1.42969E-03
Hlmo	..... = .304
Tp	..... = 42.667

Total smoothed energy .....	=	3.0143E-03
Maximum smoothed value .....	=	6.6390E-02
First moment .....	=	6.3062E-04
Second moment .....	=	1.4165E-04
lino .....	=	.720
Reflection coefficient .....	=	.153

Total smoothed energy .....	=	3.00194E-03
Maximum smoothed value .....	=	7.34534E-02
First moment .....	=	6.76866E-04
Second moment .....	=	1.73298E-04
lino .....	=	.219
Reflection coefficient .....	=	.209

Reverse Current Meter Summary	Lowest Gauge	Reverse
new Horizontal Current Energy Channel	10	new
Number of points in bore smooth	13	
Total smoothed energy	- 1.1410E+00	
Maximum smoothed value	- 2.0668E+01	
First moment	- 3.3648E-01	
Second moment	- 1.4495E-01	
Unc.	- 4.500	

Test Identification : b100-02

Reflection Coefficients for Data File : b100-02.wrl

Water Depth (Feet) : 3.00  
Data Channels used to compute Coefficients : 1 2 3  
Distances between channels in feet : 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.04034E-01  
Maximum smoothed value : 9.67407E-01  
First moment : 1.99033E-02  
Second moment : 5.44662E-03  
Ihno : 1.290  
Tp : 6.321

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 5.47011E-03  
Maximum smoothed value : 1.00101E-01  
First moment : 1.71218E-03  
Second moment : 6.45049E-04  
Ihno : .296  
Reflection coefficient : .229

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 5.97539E-02  
Maximum smoothed value : 3.41191E-01  
First moment : 1.63674E-02  
Second moment : 6.97535E-03  
Ihno : .978  
Tp : 3.200

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 3.54877E-03  
Maximum smoothed value : 3.06190E-02  
First moment : 1.90747E-03  
Second moment : 1.13593E-03  
Ihno : .252  
Reflection coefficient : .257

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 9.02007E-02  
Maximum smoothed value : 9.95459E-01  
First moment : 1.49974E-02  
Second moment : 3.07037E-03  
Ihno : 1.201  
Tp : 6.321

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 3.55966E-03  
Maximum smoothed value : 3.16579E-02  
First moment : 8.00402E-04  
Second moment : 2.19388E-04  
Ihno : .219  
Reflection coefficient : .199

Test Identification : b100-02

Reflection Coefficients for Data File : b100-02.wrl

Water Depth (Feet) : 3.00  
Data Channels used to compute Coefficients : 5 6 7  
Distances between channels in feet : 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 6.35920E-02  
Maximum smoothed value : 3.77964E-01  
First moment : 1.45657E-02  
Second moment : 4.30445E-03  
Ihno : 1.009  
Tp : 6.169

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 3.01370E-03  
Maximum smoothed value : 3.26694E-02  
First moment : 8.79346E-04  
Second moment : 3.11975E-04  
Ihno : .220  
Reflection coefficient : .218

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 5.36512E-02  
Maximum smoothed value : 2.54670E-01  
First moment : 1.35548E-02  
Second moment : 5.06000E-03  
Ihno : .927  
Tp : 3.066

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 2.15874E-03  
Maximum smoothed value : 2.06324E-02  
First moment : 1.01232E-03  
Second moment : 5.77834E-04  
Ihno : .186  
Reflection coefficient : .201

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 5.11502E-02  
Maximum smoothed value : 3.90845E-01  
First moment : 9.92797E-03  
Second moment : 2.32213E-03  
Ihno : .905  
Tp : 6.169

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 2.67589E-03  
Maximum smoothed value : 9.52391E-02  
First moment : 6.04475E-04  
Second moment : 1.70471E-04  
Ihno : .207  
Reflection coefficient : .229

Test Identification : b100-02

Run Identification : b100-02

Raw Data File : b100-02.wrl  
Date of test : 20 FEB-1992 13:46:06

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.01794E-01  
Maximum smoothed value : 7.42694E-01  
First moment : 3.10708E-02  
Second moment : 1.36815E-02  
Ihno : 1.276  
Tp : 6.321

\*\*\* Current Meter Summary Seaward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.00855E+00  
Maximum smoothed value : 1.06923E+01  
First moment : 2.5084E-01  
Second moment : 8.1983E-02  
Ihno : 4.173  
Tp : 6.321

\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.78206E-02  
Maximum smoothed value : 9.79763E-02  
First moment : 4.48438E-03  
Second moment : 2.17473E-03  
Ihno : .534  
Tp : 73.143

\*\*\* Current Meter Summary Leeward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 9.27188E-01  
Maximum smoothed value : 7.09509E+00  
First moment : 2.20421E-01  
Second moment : 7.5026E-02  
Ihno : 3.852  
Tp : 6.321

\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.33159E-02  
Maximum smoothed value : 4.58997E-02  
First moment : 3.50442E-03  
Second moment : 1.74938E-03  
Ihno : .462  
Tp : 6.649

Test Identification : M857-01

Reflection Coefficients for Data file : M857-01.wrl

Water Depth (Feet) : 3.50  
Data Channels used to compute Coefficients : 1 2 3  
Distances between channels in feet : 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresmooth : 13  
Total smoothed energy : 2.33761E-01  
Maximum smoothed value : 5.61063E+00  
First moment : 3.83076E-02  
Second moment : 9.66007E-03  
Hlno : 1.932  
Tp : 6.827

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 8.08234E-03  
Maximum smoothed value : 1.49338E-01  
First moment : 2.13669E-03  
Second moment : 7.17749E-04  
Hlno : .360  
Reflection coefficient : .186 <-----

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresmooth : 13  
Total smoothed energy : 1.28168E-01  
Maximum smoothed value : 1.65333E+00  
First moment : 4.45064E-02  
Second moment : 2.18374E-02  
Hlno : 1.432  
Tp : 3.303

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 1.38152E-02  
Maximum smoothed value : 3.43712E-01  
First moment : 8.20761E-03  
Second moment : 5.43908E-03  
Hlno : .470  
Reflection coefficient : .328 <-----

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresmooth : 13  
Total smoothed energy : 1.95943E-01  
Maximum smoothed value : 5.6043E+00  
First moment : 2.71128E-02  
Second moment : 4.68389E-03  
Hlno : 1.771  
Tp : 6.827

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 5.01370E-03  
Maximum smoothed value : 9.16919E-02  
First moment : 9.11636E-04  
Second moment : 1.99659E-04  
Hlno : .283  
Reflection coefficient : .160 <-----

Test Identification : M857-01

Reflection Coefficients for Data file : M857-01.wrl

Water Depth (Feet) : 3.50  
Data Channels used to compute Coefficients : 5 6 7  
Distances between channels in feet : 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresmooth : 13  
Total smoothed energy : 9.68401E-02  
Maximum smoothed value : 1.49583E+00  
First moment : 2.17055E-02  
Second moment : 6.57628E-03  
Hlno : 1.245  
Tp : 6.827

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 3.52821E-03  
Maximum smoothed value : 8.96149E-02  
First moment : 1.10101E-03  
Second moment : 3.99657E-04  
Hlno : .238  
Reflection coefficient : .191 <-----

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresmooth : 13  
Total smoothed energy : 5.57313E-02  
Maximum smoothed value : 1.00113E+00  
First moment : 1.49796E-02  
Second moment : 5.44530E-03  
Hlno : .944  
Tp : 3.303

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 4.51607E-03  
Maximum smoothed value : 6.50805E-02  
First moment : 1.65839E-03  
Second moment : 8.27720E-04  
Hlno : .269  
Reflection coefficient : .285 <-----

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresmooth : 13  
Total smoothed energy : 7.23312E-02  
Maximum smoothed value : 1.56708E+00  
First moment : 1.23104E-02  
Second moment : 2.55902E-03  
Hlno : 1.076  
Tp : 6.827

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 2.60220E-03  
Maximum smoothed value : 5.60140E-02  
First moment : 5.19246E-04  
Second moment : 1.20823E-04  
Hlno : .294  
Reflection coefficient : .190 <-----

Test Identification : M857-01

Run Identification : M857-01

Raw Data File : M857-01.wrl  
Date of test : 20-FEB-1992 14:52:40

\*\*\* Wave Gauge 4 Summary \*\*\*  
\*\*\* Total Wave Energy \*\*\*  
Number of points in boresmooth : 13  
Total smoothed energy : 2.51032E-01  
Maximum smoothed value : 4.31822E+00  
First moment : 7.95906E-02  
Second moment : 3.76600E-02  
Hlno : 2.004  
Tp : 6.827

\*\*\* Current Meter Summary Seaward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in boresmooth : 13  
Total smoothed energy : 1.96899E+00  
Maximum smoothed value : 5.16242E+01  
First moment : 4.60450E-01  
Second moment : 1.45303E-01  
Hlno : 5.613  
Tp : 6.827

\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in boresmooth : 13  
Total smoothed energy : 2.38047E-02  
Maximum smoothed value : 4.67025E-01  
First moment : 6.21443E-03  
Second moment : 2.61740E-03  
Hlno : .617  
Tp : 6.827

\*\*\* Current Meter Summary Leeward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in boresmooth : 13  
Total smoothed energy : 1.41729E+00  
Maximum smoothed value : 3.23106E+01  
First moment : 3.7628E-01  
Second moment : 1.34028E-01  
Hlno : 4.762  
Tp : 6.827

\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in boresmooth : 13  
Total smoothed energy : 9.33392E-03  
Maximum smoothed value : 9.41249E-02  
First moment : 3.06132E-03  
Second moment : 1.65060E-03  
Hlno : .386  
Tp : 6.737



Test Identification : b857-02

Reflection Coefficients for Data file : b857-02.wrl

Water Depth (Feet) : 3.50  
Data Channels used to compute Coefficients : 1 2 3  
Distances between channels in feet : 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boresmooth : 13  
Total smoothed energy : 2.3148E-01  
Maximum smoothed value : 5.6647E+00  
First moment : 3.8336E-02  
Second moment : 9.6589E-03  
Iln0 : 1.933  
Tp : 6.649

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy : 8.3188E-03  
Maximum smoothed value : 1.5319E-01  
First moment : 2.2242E-03  
Second moment : 7.4876E-04  
Iln0 : .366  
Reflection coefficient : .189

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boresmooth : 13  
Total smoothed energy : 1.2819E-01  
Maximum smoothed value : 1.6038E+00  
First moment : 4.4624E-02  
Second moment : 2.1863E-02  
Iln0 : 1.433  
Tp : 3.261

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy : 1.3667E-02  
Maximum smoothed value : 3.4160E-01  
First moment : 8.2161E-03  
Second moment : 3.4113E-03  
Iln0 : .471  
Reflection coefficient : .379

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boresmooth : 13  
Total smoothed energy : 1.9678E-01  
Maximum smoothed value : 5.6699E+00  
First moment : 2.7397E-02  
Second moment : 4.6962E-03  
Iln0 : 1.774  
Tp : 6.564

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy : 5.2972E-03  
Maximum smoothed value : 9.9045E-02  
First moment : 9.6430E-04  
Second moment : 2.1269E-04  
Iln0 : .291  
Reflection coefficient : .164

Test Identification : b857-02

Reflection Coefficients for Data file : b857-02.wrl

Water Depth (Feet) : 3.50  
Data Channels used to compute Coefficients : 5 6 7  
Distances between channels in feet : 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boresmooth : 13  
Total smoothed energy : 9.4773E-02  
Maximum smoothed value : 1.5378E+00  
First moment : 2.0675E-02  
Second moment : 6.1592E-03  
Iln0 : 1.231  
Tp : 6.321

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy : 3.1139E-03  
Maximum smoothed value : 7.7228E-02  
First moment : 9.6631E-04  
Second moment : 3.4904E-04  
Iln0 : .224  
Reflection coefficient : .182

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boresmooth : 13  
Total smoothed energy : 5.3903E-02  
Maximum smoothed value : 9.9380E-01  
First moment : 1.4437E-02  
Second moment : 5.2674E-03  
Iln0 : .929  
Tp : 3.241

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy : 4.4016E-03  
Maximum smoothed value : 6.7040E-02  
First moment : 1.5943E-03  
Second moment : 7.8416E-04  
Iln0 : .267  
Reflection coefficient : .287

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*

\*\*\* Incident wave energy \*\*\*

Number of points in boresmooth : 13  
Total smoothed energy : 7.3089E-02  
Maximum smoothed value : 1.5946E+00  
First moment : 1.2426E-02  
Second moment : 2.5489E-03  
Iln0 : 1.081  
Tp : 6.400

\*\*\* Reflected wave energy \*\*\*

Total smoothed energy : 2.5529E-03  
Maximum smoothed value : 5.7348E-02  
First moment : 5.1179E-04  
Second moment : 1.1909E-04  
Iln0 : .202  
Reflection coefficient : .187

Test Identification : b857-02

Run Identification : b857-02

Raw Data File : b857-02.wrl  
Date of test : 20 FEB 1992 15:11:15

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*

Number of points in boresmooth : 13  
Total smoothed energy : 2.5015E-01  
Maximum smoothed value : 4.3675E+00  
First moment : 7.9419E-02  
Second moment : 3.7568E-02  
Iln0 : 2.003  
Tp : 6.481

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*

Number of points in boresmooth : 13  
Total smoothed energy : 1.6750E+02  
Maximum smoothed value : 4.3710E+03  
First moment : 3.9129E+01  
Second moment : 1.2350E+01  
Iln0 : 51.748  
Tp : 6.564

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in boresmooth : 13  
Total smoothed energy : 2.1461E+00  
Maximum smoothed value : 4.0602E+01  
First moment : 5.3197E-01  
Second moment : 2.2639E-01  
Iln0 : 5.840  
Tp : 6.649

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*

Number of points in boresmooth : 13  
Total smoothed energy : 1.2687E+02  
Maximum smoothed value : 2.9367E+03  
First moment : 3.3066E+01  
Second moment : 1.1775E+01  
Iln0 : 45.035  
Tp : 6.400

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in boresmooth : 13  
Total smoothed energy : 7.7184E-01  
Maximum smoothed value : 7.6346E+00  
First moment : 2.5641E-01  
Second moment : 1.4130E-01  
Iln0 : 3.514  
Tp : 6.564

Test Identification : b857-03

Reflection Coefficients for Data file : b857-03.wrl

Water Depth (Feet) : 3.50  
Data Channels used to compute Coefficients : 1 2 3  
Distance between channels in feet : 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.4224E-01  
Maximum smoothed value : 1.6329E+00  
First moment : 2.3425E-02  
Second moment : 5.9920E-03  
I rms : 1.509  
Tp : 6.919

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 8.2168E-03  
Maximum smoothed value : 5.6240E-02  
First moment : 2.3699E-03  
Second moment : 8.2381E-04  
I rms : .363  
Reflection coefficient : .240

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 7.1894E-02  
Maximum smoothed value : 3.0065E-01  
First moment : 1.8179E-02  
Second moment : 7.9697E-03  
I rms : 1.073  
Tp : 3.507

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 5.4258E-03  
Maximum smoothed value : 5.9669E-02  
First moment : 2.5819E-03  
Second moment : 1.5321E-03  
I rms : .295  
Reflection coefficient : .275

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.3409E-01  
Maximum smoothed value : 1.6801E+00  
First moment : 2.0995E-02  
Second moment : 4.4197E-03  
I rms : 1.465  
Tp : 6.919

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 7.0822E-03  
Maximum smoothed value : 1.0403E-01  
First moment : 1.7014E-03  
Second moment : 5.0380E-04  
I rms : .337  
Reflection coefficient : .230

Test Identification : b857-03

Reflection Coefficients for Data file : b857-03.wrl

Water Depth (Feet) : 3.50  
Data Channels used to compute Coefficients : 5 6 7  
Distance between channels in feet : 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 8.9201E-02  
Maximum smoothed value : 7.6876E-01  
First moment : 1.8523E-02  
Second moment : 5.4625E-03  
I rms : 1.195  
Tp : 6.919

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 4.5573E-03  
Maximum smoothed value : 6.0571E-02  
First moment : 1.3871E-03  
Second moment : 5.1533E-04  
I rms : .270  
Reflection coefficient : .226

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 5.7337E-02  
Maximum smoothed value : 2.7033E-01  
First moment : 1.3857E-02  
Second moment : 4.9991E-03  
I rms : .958  
Tp : 3.631

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 2.8274E-03  
Maximum smoothed value : 2.8078E-02  
First moment : 1.2713E-03  
Second moment : 6.9912E-04  
I rms : .213  
Reflection coefficient : .222

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 7.7278E-02  
Maximum smoothed value : 7.9007E-01  
First moment : 1.4063E-02  
Second moment : 3.2999E-03  
I rms : 1.112  
Tp : 6.919

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 5.0321E-03  
Maximum smoothed value : 1.9105E-01  
First moment : 1.3588E-03  
Second moment : 4.2750E-04  
I rms : .284  
Reflection coefficient : .255

Test Identification : b857-03

Run Identification : b857-03

Raw Data File : b857-03.wrl  
Date of test : 20 FEB 1992 15:58:41

\*\*\* Wave Gauge 4 Summary \*\*\*  
\*\*\* Total Wave Energy \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.3675E-01  
Maximum smoothed value : 1.4627E+00  
First moment : 3.7182E-02  
Second moment : 1.5035E-02  
I rms : 1.479  
Tp : 6.919

\*\*\* Current Meter Summary Seaward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.4083E+00  
Maximum smoothed value : 1.6156E+01  
First moment : 2.9537E-01  
Second moment : 8.8689E-02  
I rms : 4.747  
Tp : 6.919

\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 5.4784E-02  
Maximum smoothed value : 1.9420E-01  
First moment : 1.0945E-02  
Second moment : 6.4644E-03  
I rms : .936  
Tp : 73.143

\*\*\* Current Meter Summary Leeward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.4203E+00  
Maximum smoothed value : 1.4966E+01  
First moment : 2.9622E-01  
Second moment : 9.0069E-02  
I rms : 4.768  
Tp : 6.919

\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.9275E-02  
Maximum smoothed value : 6.2760E-02  
First moment : 5.3667E-03  
Second moment : 2.7827E-03  
I rms : .555  
Tp : 6.919

Test Identification ..... : b750-01

Reflection Coefficients for Data file ..... : b750-01.wrl

Water Depth (feet) ..... = 4.00  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 2.85167E-01  
Maximum smoothed value ..... = 7.31447E+00  
First moment ..... = 3.69605E-02  
Second moment ..... = 7.62093E-03  
Ihno ..... = 2.136  
Tp ..... = 6.827

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 6.21527E-03  
Maximum smoothed value ..... = 1.37093E-01  
First moment ..... = 1.11499E-03  
Second moment ..... = 3.19064E-04  
Ihno ..... = .315  
Tp ..... = .148

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.25031E-01  
Maximum smoothed value ..... = 2.11813E+00  
First moment ..... = 3.15104E-02  
Second moment ..... = 1.32056E-02  
Ihno ..... = 1.400  
Tp ..... = 3.413

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 6.99731E-03  
Maximum smoothed value ..... = 1.43787E-01  
First moment ..... = 3.54475E-03  
Second moment ..... = 2.04216E-03  
Ihno ..... = .335  
Tp ..... = .239

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 2.95748E-01  
Maximum smoothed value ..... = 7.27534E+00  
First moment ..... = 4.66214E-02  
Second moment ..... = 1.03073E-02  
Ihno ..... = 2.175  
Tp ..... = 6.827

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.30172E-02  
Maximum smoothed value ..... = 4.72627E-01  
First moment ..... = 3.70461E-03  
Second moment ..... = 1.23990E-03  
Ihno ..... = .456  
Tp ..... = .210

Test Identification ..... : b750-01

Reflection Coefficients for Data file ..... : b750-01.wrl

Water Depth (feet) ..... = 4.00  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 9.91201E-02  
Maximum smoothed value ..... = 2.09943E+00  
First moment ..... = 1.63281E-02  
Second moment ..... = 4.15466E-03  
Ihno ..... = 1.259  
Tp ..... = 6.827

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 3.28377E-03  
Maximum smoothed value ..... = 4.68990E-02  
First moment ..... = 6.42914E-04  
Second moment ..... = 1.82315E-04  
Ihno ..... = .229  
Tp ..... = .182

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 5.02347E-02  
Maximum smoothed value ..... = 7.24165E-01  
First moment ..... = 1.37910E-02  
Second moment ..... = 5.61853E-03  
Ihno ..... = .897  
Tp ..... = 3.413

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 6.54009E-03  
Maximum smoothed value ..... = 2.29184E-01  
First moment ..... = 3.21584E-03  
Second moment ..... = 1.91793E-03  
Ihno ..... = .324  
Tp ..... = .361

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 8.40517E-02  
Maximum smoothed value ..... = 2.12148E+00  
First moment ..... = 1.20452E-02  
Second moment ..... = 2.27680E-03  
Ihno ..... = 1.160  
Tp ..... = 6.827

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 3.91422E-03  
Maximum smoothed value ..... = 1.55759E-01  
First moment ..... = 8.09700E-04  
Second moment ..... = 2.04477E-04  
Ihno ..... = .250  
Tp ..... = .216

Test Identification ..... : b750-01

Run Identification ..... : b750-01

Raw Data File ..... : b750-01.wrl  
Date of test ..... : 21-FEB-1992 08:28:42

\*\*\* Wave Gauge 4 Summary \*\*\*  
\*\*\* Total Wave Energy \*\*\*

Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 2.61151E-01  
Maximum smoothed value ..... = 5.08236E+00  
First moment ..... = 7.59785E-02  
Second moment ..... = 3.37666E-02  
Ihno ..... = 2.044  
Tp ..... = 6.827

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 2.50681E+00  
Maximum smoothed value ..... = 6.56003E+01  
First moment ..... = 5.49406E-01  
Second moment ..... = 1.65186E-01  
Ihno ..... = 6.333  
Tp ..... = 6.827

\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 2.61867E-02  
Maximum smoothed value ..... = 4.31576E-01  
First moment ..... = 6.43995E-03  
Second moment ..... = 2.71038E-03  
Ihno ..... = .647  
Tp ..... = 6.777

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 2.12228E+00  
Maximum smoothed value ..... = 5.26301E+01  
First moment ..... = 5.01066E-01  
Second moment ..... = 1.67173E-01  
Ihno ..... = 5.827  
Tp ..... = 6.827

\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.88379E-02  
Maximum smoothed value ..... = 1.47327E-01  
First moment ..... = 6.24443E-03  
Second moment ..... = 3.41710E-03  
Ihno ..... = .549  
Tp ..... = 7.529

Test Identification ..... : b750-02

Reflection Coefficient for Data file ..... : b750-02.wrl

Water Depth (Feet) ..... = 4.00  
Data Channels used to compute Coefficients ... = 1 2 3  
Distance between channels in feet ..... = 7.00 2.50

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy =====  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 9.5715E-02  
Maximum smoothed value ..... = 3.21959E+00  
First moment ..... = 8.29759E-03  
Second moment ..... = 1.0583E-03  
Ihno ..... = 1.235  
Tp ..... = 7.211

==== Reflected wave energy =====  
Total smoothed energy ..... = 1.2070E-03  
Maximum smoothed value ..... = 4.3793E-02  
First moment ..... = 9.4367E-05  
Second moment ..... = 1.1668E-05  
Ihno ..... = .139  
Tp ..... = .113

==== Reflected spectral densities for DL = 2.5 Ft. =====  
==== Incident wave energy =====  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.2871E-02  
Maximum smoothed value ..... = 3.9543E-01  
First moment ..... = 1.4529E-03  
Second moment ..... = 2.8310E-04  
Ihno ..... = .454  
Tp ..... = 3.483

==== Reflected wave energy =====  
Total smoothed energy ..... = 3.3104E-04  
Maximum smoothed value ..... = 6.1445E-03  
First moment ..... = 6.6915E-05  
Second moment ..... = 2.5803E-05  
Ihno ..... = .073  
Tp ..... = .160

==== Smoothed spectral densities for DL = 9.5 Ft. =====  
==== Incident wave energy =====  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 9.7424E-02  
Maximum smoothed value ..... = 3.2267E+00  
First moment ..... = 1.0963E-02  
Second moment ..... = 1.7049E-03  
Ihno ..... = 1.249  
Tp ..... = 7.211

==== Reflected wave energy =====  
Total smoothed energy ..... = 1.6945E-03  
Maximum smoothed value ..... = 4.1410E-02  
First moment ..... = 3.0835E-04  
Second moment ..... = 8.5472E-05  
Ihno ..... = .165  
Tp ..... = .132

Test Identification ..... : b750-02

Reflection Coefficient for Data file ..... : b750-02.wrl

Water Depth (Feet) ..... = 4.00  
Data Channels used to compute Coefficients ... = 5 6 7  
Distance between channels in feet ..... = 7.00 3.00

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy =====  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 7.7309E-02  
Maximum smoothed value ..... = 1.9613E+00  
First moment ..... = 1.0274E-02  
Second moment ..... = 2.1846E-03  
Ihno ..... = 1.112  
Tp ..... = 7.111

==== Reflected wave energy =====  
Total smoothed energy ..... = 8.6927E-04  
Maximum smoothed value ..... = 2.0592E-02  
First moment ..... = 1.1047E-04  
Second moment ..... = 2.0648E-05  
Ihno ..... = .118  
Tp ..... = .106

==== Smoothed spectral densities for DL = 3.0 Ft. =====  
==== Incident wave energy =====  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 3.0407E-02  
Maximum smoothed value ..... = 6.4409E-01  
First moment ..... = 5.7714E-03  
Second moment ..... = 1.4920E-03  
Ihno ..... = .698  
Tp ..... = 3.483

==== Reflected wave energy =====  
Total smoothed energy ..... = 5.0873E-04  
Maximum smoothed value ..... = 7.3326E-03  
First moment ..... = 2.0097E-04  
Second moment ..... = 9.9498E-05  
Ihno ..... = .090  
Tp ..... = .128

==== Smoothed spectral densities for DL = 10.0 Ft. =====  
==== Incident wave energy =====  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 7.0357E-02  
Maximum smoothed value ..... = 1.9654E+00  
First moment ..... = 9.0386E-03  
Second moment ..... = 1.50179E-03  
Ihno ..... = 1.061  
Tp ..... = 7.111

==== Reflected wave energy =====  
Total smoothed energy ..... = 6.7047E-04  
Maximum smoothed value ..... = 1.2915E-02  
First moment ..... = 1.1183E-04  
Second moment ..... = 2.2825E-05  
Ihno ..... = .104  
Tp ..... = .098

Test Identification ..... : b750-02

Run Identification ..... : b750-02

Raw Data File ..... : b750-02.wrl  
Date of test ..... : 21-FEB-1992 08:58:17

==== Wave Gauge 4 Summary =====  
==== Total Wave Energy =====  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 9.0073E-02  
Maximum smoothed value ..... = 2.7758E+00  
First moment ..... = 1.6759E-02  
Second moment ..... = 4.0186E-03  
Ihno ..... = 1.200  
Tp ..... = 7.111

==== Current Meter Summary Seaward Gauge =====  
==== Horizontal Current Energy Channel 8 =====  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.0174E+00  
Maximum smoothed value ..... = 3.4847E+01  
First moment ..... = 1.6616E-01  
Second moment ..... = 3.1600E-02  
Ihno ..... = 4.035  
Tp ..... = 7.014

==== Vertical Current Energy Channel 9 =====  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 7.6695E-03  
Maximum smoothed value ..... = 1.3572E-01  
First moment ..... = 1.7071E-03  
Second moment ..... = 7.2595E-04  
Ihno ..... = .350  
Tp ..... = 7.111

==== Current Meter Summary Leeward Gauge =====  
==== Horizontal Current Energy Channel 10 =====  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 1.0138E+00  
Maximum smoothed value ..... = 3.34079E+01  
First moment ..... = 1.7311E-01  
Second moment ..... = 3.5745E-02  
Ihno ..... = 4.028  
Tp ..... = 7.111

==== Vertical Current Energy Channel 11 =====  
Number of points in boxcar smooth ..... = 13  
Total smoothed energy ..... = 7.2652E-03  
Maximum smoothed value ..... = 9.8753E-02  
First moment ..... = 1.6931E-03  
Second moment ..... = 7.6421E-04  
Ihno ..... = .341  
Tp ..... = 6.737

Test Identification ..... : b750-03

Reflection Coefficients for Data file ..... : b750-03.wrl

Water Depth (Feet) ..... = 4.00  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 2.05947E-01  
Maximum smoothed value ..... = 5.96938E+00  
First moment ..... = 2.29544E-02  
Second moment ..... = 4.15166E-03  
Hmo ..... = 1.815  
Tp ..... = 7.211

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.76051E-03  
Maximum smoothed value ..... = 5.40711E-02  
First moment ..... = 2.0047E-04  
Second moment ..... = 4.30691E-05  
Hmo ..... = .168  
Tp ..... = .092

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 5.8663E-02  
Maximum smoothed value ..... = 1.34168E+00  
First moment ..... = 1.07923E-02  
Second moment ..... = 3.5428E-03  
Hmo ..... = .969  
Tp ..... = 3.483

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.61952E-03  
Maximum smoothed value ..... = 2.33811E-02  
First moment ..... = 7.24911E-04  
Second moment ..... = 3.85558E-04  
Hmo ..... = .161  
Tp ..... = .166

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 2.11179E-01  
Maximum smoothed value ..... = 5.96434E+00  
First moment ..... = 2.90001E-02  
Second moment ..... = 5.75033E-03  
Hmo ..... = 1.838  
Tp ..... = 7.211

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 3.24494E-03  
Maximum smoothed value ..... = 9.31847E-02  
First moment ..... = 7.81168E-04  
Second moment ..... = 2.52631E-04  
Hmo ..... = .728  
Tp ..... = .124

Test Identification ..... : b750-03

Reflection Coefficients for Data file ..... : b750-03.wrl

Water Depth (Feet) ..... = 4.00  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.5945E-01  
Maximum smoothed value ..... = 2.50148E+00  
First moment ..... = 3.06532E-02  
Second moment ..... = 8.49806E-03  
Hmo ..... = 1.575  
Tp ..... = 7.111

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.93269E-03  
Maximum smoothed value ..... = 5.52064E-02  
First moment ..... = 4.40137E-04  
Second moment ..... = 9.13930E-05  
Hmo ..... = .217  
Tp ..... = .138

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.23473E-01  
Maximum smoothed value ..... = 2.11740E+00  
First moment ..... = 3.30789E-02  
Second moment ..... = 1.19722E-02  
Hmo ..... = 1.406  
Tp ..... = 2.306

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 7.50074E-03  
Maximum smoothed value ..... = 2.67228E-01  
First moment ..... = 3.72834E-03  
Second moment ..... = 2.1951E-03  
Hmo ..... = .346  
Tp ..... = .246

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*

\*\*\* Incident wave energy \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.13783E-01  
Maximum smoothed value ..... = 2.57210E+00  
First moment ..... = 1.77544E-02  
Second moment ..... = 3.58409E-03  
Hmo ..... = 1.349  
Tp ..... = 2.381

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 4.01401E-03  
Maximum smoothed value ..... = 2.46703E-01  
First moment ..... = 8.00750E-04  
Second moment ..... = 1.93843E-04  
Hmo ..... = .253  
Tp ..... = .188

Test Identification ..... : b750-03

Run Identification ..... : b750-03

Raw Data File ..... : b750-03.wrl  
Date of test ..... : 21-FEB-1992 09:16:01

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 2.11239E-01  
Maximum smoothed value ..... = 4.71024E+00  
First moment ..... = 5.60923E-02  
Second moment ..... = 2.15503E-02  
Hmo ..... = 1.838  
Tp ..... = 7.111

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.88691E+00  
Maximum smoothed value ..... = 5.62867E+01  
First moment ..... = 3.58618E-01  
Second moment ..... = 8.77760E-02  
Hmo ..... = 5.495  
Tp ..... = 7.111

\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.87828E-02  
Maximum smoothed value ..... = 3.63391E-01  
First moment ..... = 4.15419E-03  
Second moment ..... = 1.6137E-03  
Hmo ..... = .548  
Tp ..... = 7.014

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 2.10828E+00  
Maximum smoothed value ..... = 5.35303E+01  
First moment ..... = 4.74279E-01  
Second moment ..... = 1.45458E-01  
Hmo ..... = 5.808  
Tp ..... = 7.111

\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in borear smooth ..... = 13  
Total smoothed energy ..... = 1.64122E-02  
Maximum smoothed value ..... = 2.02173E-01  
First moment ..... = 5.05181E-03  
Second moment ..... = 2.41966E-03  
Hmo ..... = .512  
Tp ..... = 7.211

Test Identification : b750-04

Reflection Coefficients for Data file : b750-04.wrl

Water Depth (Feet) : 4.00  
Data Channels used to compute Coefficients : 1 2 3  
Distances between channels in feet : 7.00 2.50

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy ====  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.42739E-01  
Maximum smoothed value : 4.47370E+00  
First moment : 1.42231E-02  
Second moment : 2.2892E-03  
Ihno : 1.511  
Tp : 7.211

==== Reflected wave energy ====  
Total smoothed energy : 1.83777E-03  
Maximum smoothed value : 5.6094E-02  
First moment : 2.2310E-04  
Second moment : 5.1001E-05  
Ihno : .171  
Tp : .113

==== Smoothed spectral densities for DL = 2.5 Ft. =====  
==== Incident wave energy ====

Number of points in boxcar smooth : 13  
Total smoothed energy : 2.8828E-02  
Maximum smoothed value : 7.7531E-01  
First moment : 4.1431E-03  
Second moment : 1.0740E-03  
Ihno : .679  
Tp : 3.483

==== Reflected wave energy ====  
Total smoothed energy : 5.3457E-04  
Maximum smoothed value : 7.2179E-03  
First moment : 1.6916E-04  
Second moment : 8.1148E-05  
Ihno : .092  
Tp : .136

==== Smoothed spectral densities for DL = 9.5 Ft. =====  
==== Incident wave energy ====

Number of points in boxcar smooth : 13  
Total smoothed energy : 1.41679E-01  
Maximum smoothed value : 4.5092E+00  
First moment : 1.8653E-02  
Second moment : 3.3935E-03  
Ihno : 1.537  
Tp : 7.211

==== Reflected wave energy ====  
Total smoothed energy : 3.1428E-03  
Maximum smoothed value : 8.9947E-02  
First moment : 7.7326E-04  
Second moment : 2.5048E-04  
Ihno : .224  
Tp : .146

Test Identification : b750-04

Reflection Coefficients for Data file : b750-04.wrl

Water Depth (Feet) : 4.00  
Data Channels used to compute Coefficients : 5 6 7  
Distances between channels in feet : 7.00 3.00

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy ====  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.15490E-01  
Maximum smoothed value : 2.39254E+00  
First moment : 1.90963E-02  
Second moment : 4.79043E-03  
Ihno : 1.359  
Tp : 7.111

==== Reflected wave energy ====  
Total smoothed energy : 1.19283E-03  
Maximum smoothed value : 2.9640E-02  
First moment : 1.4369E-04  
Second moment : 2.5398E-05  
Ihno : .138  
Tp : .102

==== Smoothed spectral densities for DL = 3.0 Ft. =====  
==== Incident wave energy ====

Number of points in boxcar smooth : 13  
Total smoothed energy : 6.7223E-02  
Maximum smoothed value : 1.11005E+00  
First moment : 1.51904E-02  
Second moment : 4.5814E-03  
Ihno : 1.037  
Tp : 2.306

==== Reflected wave energy ====  
Total smoothed energy : 1.94897E-03  
Maximum smoothed value : 6.8217E-02  
First moment : 9.70467E-04  
Second moment : 5.98767E-04  
Ihno : .177  
Tp : .170

==== Smoothed spectral densities for DL = 10.0 Ft. =====  
==== Incident wave energy ====

Number of points in boxcar smooth : 13  
Total smoothed energy : 9.62759E-02  
Maximum smoothed value : 2.43666E+00  
First moment : 1.36699E-02  
Second moment : 2.52714E-03  
Ihno : 1.241  
Tp : 7.111

==== Reflected wave energy ====  
Total smoothed energy : 1.15956E-03  
Maximum smoothed value : 1.12576E-01  
First moment : 2.3710E-04  
Second moment : 6.0952E-05  
Ihno : .136  
Tp : .110

Test Identification : b750-04

Run Identification : b750-04

Raw Data File : b750-04.wrl  
Date of test : 21-FEB-1992 09:35:51

==== Wave Group 4 Summary =====  
==== Total Wave Energy =====

Number of points in boxcar smooth : 13  
Total smoothed energy : 1.43943E-01  
Maximum smoothed value : 3.47691E+00  
First moment : 3.19943E-02  
Second moment : 9.95420E-03  
Ihno : 1.518  
Tp : 7.111

==== Current Meter Summary Seaward Gauge =====  
==== Horizontal Current Energy Channel 8 =====

Number of points in boxcar smooth : 13  
Total smoothed energy : 1.49479E+00  
Maximum smoothed value : 4.76791E+01  
First moment : 2.6309E-01  
Second moment : 5.67701E-02  
Ihno : 4.090  
Tp : 7.111

==== Vertical Current Energy Channel 9 =====

Number of points in boxcar smooth : 13  
Total smoothed energy : 1.26918E-02  
Maximum smoothed value : 2.3554E-01  
First moment : 2.7374E-03  
Second moment : 1.07221E-03  
Ihno : .451  
Tp : 7.314

==== Current Meter Summary Leeward Gauge =====  
==== Horizontal Current Energy Channel 10 =====

Number of points in boxcar smooth : 13  
Total smoothed energy : 1.3956E+00  
Maximum smoothed value : 4.19012E+01  
First moment : 2.63941E-01  
Second moment : 6.5567E-02  
Ihno : 4.726  
Tp : 7.111

==== Vertical Current Energy Channel 11 =====

Number of points in boxcar smooth : 13  
Total smoothed energy : 9.44697E-03  
Maximum smoothed value : 1.45789E-01  
First moment : 2.3733E-03  
Second moment : 1.00471E-03  
Ihno : .389  
Tp : 7.111

Test Identification : b750-03

Reflection Coefficients for Data File : b750-03.wrl

Water Depth (Feet) : 4.00  
Data Channels used to compute Coefficients : 1 2 3  
Distances between channels in feet : 7.00 2.50

\*\*\* Smoothed spectral densities for  $D_L = 7.0$  Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresc smooth : 13  
Total smoothed energy : 2.16078E-01  
Maximum smoothed value : 1.30208E+00  
First moment : 3.18791E-02  
Second moment : 6.82957E-03  
Iline : 1.839  
Tp : 7.529

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 5.91475E-03  
Maximum smoothed value : 3.72831E-02  
First moment : 1.22644E-03  
Second moment : 3.44943E-04  
Iline : .308  
Reflection coefficient : .165 <-----  
\*\*\* Smoothed spectral densities for  $D_L = 2.5$  Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in boresc smooth : 13  
Total smoothed energy : 9.46768E-02  
Maximum smoothed value : 4.97309E-01  
First moment : 2.42699E-02  
Second moment : 9.53146E-03  
Iline : 1.227  
Tp : 3.765

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 4.65813E-03  
Maximum smoothed value : 2.26803E-02  
First moment : 2.21898E-03  
Second moment : 1.24519E-03  
Iline : .273  
Reflection coefficient : .223 <-----  
\*\*\* Smoothed spectral densities for  $D_L = 9.5$  Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in boresc smooth : 13  
Total smoothed energy : 2.30541E-01  
Maximum smoothed value : 1.82633E+00  
First moment : 3.06749E-02  
Second moment : 5.41828E-03  
Iline : 1.922  
Tp : 7.529

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 5.69194E-03  
Maximum smoothed value : 7.71792E-02  
First moment : 9.91406E-04  
Second moment : 2.33608E-04  
Iline : .302  
Reflection coefficient : .157 <-----

Test Identification : b750-05

Reflection Coefficients for Data File : b750-05.wrl

Water Depth (Feet) : 4.00  
Data Channels used to compute Coefficients : 5 6 7  
Distances between channels in feet : 7.00 3.00

\*\*\* Smoothed spectral densities for  $D_L = 7.0$  Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresc smooth : 13  
Total smoothed energy : 1.36913E-01  
Maximum smoothed value : 6.50315E-01  
First moment : 3.14047E-02  
Second moment : 9.20240E-03  
Iline : 1.491  
Tp : 7.111

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 4.93683E-03  
Maximum smoothed value : 2.73284E-02  
First moment : 9.91294E-04  
Second moment : 2.69546E-04  
Iline : .281  
Reflection coefficient : .189 <-----  
\*\*\* Smoothed spectral densities for  $D_L = 3.0$  Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in boresc smooth : 13  
Total smoothed energy : 1.03091E-01  
Maximum smoothed value : 4.22819E-01  
First moment : 2.69388E-02  
Second moment : 9.51020E-03  
Iline : 1.278  
Tp : 2.246

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 7.12356E-03  
Maximum smoothed value : 1.5374E-01  
First moment : 3.30981E-03  
Second moment : 1.79843E-03  
Iline : .338  
Reflection coefficient : .264 <-----  
\*\*\* Smoothed spectral densities for  $D_L = 10.0$  Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*

Number of points in boresc smooth : 13  
Total smoothed energy : 1.09184E-01  
Maximum smoothed value : 7.71719E-01  
First moment : 1.73515E-02  
Second moment : 3.53413E-03  
Iline : 1.372  
Tp : 2.612

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 5.66282E-03  
Maximum smoothed value : 6.48870E-02  
First moment : 1.03945E-03  
Second moment : 2.41503E-04  
Iline : .301  
Reflection coefficient : .228 <-----

Test Identification : b750-05

Run Identification : b750-05

Raw Data File : b750-05.wrl  
Date of test : 21-FEB-1992 09:34:50

\*\*\* Wave Gauge 4 Summary \*\*\*

\*\*\* Total Wave Energy \*\*\*  
Number of points in boresc smooth : 13  
Total smoothed energy : 2.89967E-01  
Maximum smoothed value : 1.3047E+00  
First moment : 8.83569E-02  
Second moment : 4.02711E-02  
Iline : 2.154  
Tp : 6.737

\*\*\* Current Meter Summary Seaward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in boresc smooth : 13  
Total smoothed energy : 2.57209E+00  
Maximum smoothed value : 1.72323E+01  
First moment : 5.22997E-01  
Second moment : 1.44777E-01  
Iline : 6.416  
Tp : 7.111

\*\*\* Vertical Current Energy Channel 9 \*\*\*

Number of points in boresc smooth : 13  
Total smoothed energy : 2.63363E-02  
Maximum smoothed value : 1.27014E-01  
First moment : 6.33664E-03  
Second moment : 2.41750E-03  
Iline : .649  
Tp : 7.111

\*\*\* Current Meter Summary Leeward Gauge \*\*\*

\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in boresc smooth : 13  
Total smoothed energy : 2.55765E+00  
Maximum smoothed value : 1.50497E+01  
First moment : 6.10926E-01  
Second moment : 2.06423E-01  
Iline : 6.397  
Tp : 6.737

\*\*\* Vertical Current Energy Channel 11 \*\*\*

Number of points in boresc smooth : 13  
Total smoothed energy : 2.24328E-02  
Maximum smoothed value : 6.54314E-02  
First moment : 7.20100E-03  
Second moment : 3.45155E-03  
Iline : .599  
Tp : 7.111

Test Identification ..... : b113-01

Reflection Coefficients for Data file ..... : b113-01.wrl

Water Depth (Feet) ..... = 4.00  
Data Channels used to compute Coefficients ... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

```
*** Smoothed spectral densities for DL = 7.0 Ft. *****
*** Incident wave energy ***
Number of points in bucket smooth ..... = 13
Total smoothed energy ..... = 2.15547E-01
Maximum smoothed value ..... = 5.2737E+00
First moment ..... = 4.19754E-02
Second moment ..... = 1.23526E-03
Hmo ..... = 1.857
Tp ..... = 5.626

*** Reflected wave energy ***
Total smoothed energy ..... = 8.7015E-03
Maximum smoothed value ..... = 3.2066E-01
First moment ..... = 3.6470E-03
Second moment ..... = 1.5763E-03
Hmo ..... = .375
Tp ..... = .202
Reflection coefficient ..... <-----

*** Smoothed spectral densities for DL = 2.5 Ft. *****
*** Incident wave energy ***
Number of points in bucket smooth ..... = 13
Total smoothed energy ..... = 6.84081E-02
Maximum smoothed value ..... = 1.41993E+00
First moment ..... = 1.66443E-02
Second moment ..... = 5.3674E-03
Hmo ..... = 1.046
Tp ..... = 2.860

*** Reflected wave energy ***
Total smoothed energy ..... = 1.84025E-03
Maximum smoothed value ..... = 3.5514E-02
First moment ..... = 9.7229E-04
Second moment ..... = 5.56197E-04
Hmo ..... = .172
Tp ..... = .164
Reflection coefficient ..... <-----

*** Smoothed spectral densities for DL = 9.5 Ft. *****
*** Incident wave energy ***
Number of points in bucket smooth ..... = 13
Total smoothed energy ..... = 1.83457E-01
Maximum smoothed value ..... = 5.30715E+00
First moment ..... = 2.98687E-02
Second moment ..... = 5.9684E-03
Hmo ..... = 1.713
Tp ..... = 5.626

*** Reflected wave energy ***
Total smoothed energy ..... = 1.8137E-03
Maximum smoothed value ..... = 4.9187E-02
First moment ..... = 4.5977E-04
Second moment ..... = 1.2612E-04
Hmo ..... = .170
Tp ..... = .099
Reflection coefficient ..... <-----
```

Test Identification ..... : b113-01

Reflection Coefficients for Data file ..... : b113-01.wrl

Water Depth (Feet) ..... = 4.00  
Data Channels used to compute Coefficients ... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

```
*** Smoothed spectral densities for DL = 7.0 Ft. *****
*** Incident wave energy ***
Number of points in bucket smooth ..... = 13
Total smoothed energy ..... = 2.17527E-01
Maximum smoothed value ..... = 3.25501E+00
First moment ..... = 5.99175E-02
Second moment ..... = 2.06517E-02
Hmo ..... = 1.866
Tp ..... = 2.860

*** Reflected wave energy ***
Total smoothed energy ..... = 1.44937E-02
Maximum smoothed value ..... = 5.17660E-01
First moment ..... = 5.71410E-03
Second moment ..... = 2.47149E-03
Hmo ..... = .482
Tp ..... = .258
Reflection coefficient ..... <-----

*** Smoothed spectral densities for DL = 3.0 Ft. *****
*** Incident wave energy ***
Number of points in bucket smooth ..... = 13
Total smoothed energy ..... = 1.1348E-01
Maximum smoothed value ..... = 3.20091E+00
First moment ..... = 2.61843E-02
Second moment ..... = 7.30822E-03
Hmo ..... = 1.353
Tp ..... = 2.860

*** Reflected wave energy ***
Total smoothed energy ..... = 2.83300E-03
Maximum smoothed value ..... = 4.74933E-02
First moment ..... = 1.0166E-03
Second moment ..... = 4.80743E-04
Hmo ..... = .214
Tp ..... = .158
Reflection coefficient ..... <-----

*** Smoothed spectral densities for DL = 10.0 Ft. *****
*** Incident wave energy ***
Number of points in bucket smooth ..... = 13
Total smoothed energy ..... = 1.62302E-01
Maximum smoothed value ..... = 3.70464E+00
First moment ..... = 3.62625E-02
Second moment ..... = 9.34165E-03
Hmo ..... = 1.611
Tp ..... = 2.860

*** Reflected wave energy ***
Total smoothed energy ..... = 1.79269E-03
Maximum smoothed value ..... = 5.77144E-02
First moment ..... = 2.62350E-04
Second moment ..... = 4.61859E-05
Hmo ..... = .169
Tp ..... = .105
Reflection coefficient ..... <-----
```

Test Identification ..... : b113-01

Run Identification ..... : b113-01

Raw Data File ..... : b113-01.wrl  
Date of test ..... : 21-FEB-1992 10:39:35

```
*** Wave Gauge 4 Summary ***
*** Total Wave Energy ***
Number of points in bucket smooth ..... = 13
Total smoothed energy ..... = 1.99410E-01
Maximum smoothed value ..... = 3.96312E+00
First moment ..... = 6.24982E-02
Second moment ..... = 2.33720E-02
Hmo ..... = 1.786
Tp ..... = 5.626

*** Current Meter Summary Seaward Gauge ***
*** Horizontal Current Energy Channel 8 ***
Number of points in bucket smooth ..... = 13
Total smoothed energy ..... = 1.52932E+00
Maximum smoothed value ..... = 4.47003E+01
First moment ..... = 3.46721E-01
Second moment ..... = 9.54350E-02
Hmo ..... = 4.947
Tp ..... = 5.626

*** Vertical Current Energy Channel 9 ***
Number of points in bucket smooth ..... = 13
Total smoothed energy ..... = 1.51397E-02
Maximum smoothed value ..... = 2.03758E-01
First moment ..... = 4.06640E-03
Second moment ..... = 1.79154E-03
Hmo ..... = .492
Tp ..... = 5.953

*** Current Meter Summary Leeward Gauge ***
*** Horizontal Current Energy Channel 10 ***
Number of points in bucket smooth ..... = 13
Total smoothed energy ..... = 1.70431E+00
Maximum smoothed value ..... = 4.41858E+01
First moment ..... = 4.26216E-01
Second moment ..... = 1.32283E-01
Hmo ..... = 5.222
Tp ..... = 5.626

*** Vertical Current Energy Channel 11 ***
Number of points in bucket smooth ..... = 13
Total smoothed energy ..... = 1.14143E-02
Maximum smoothed value ..... = 1.86753E-01
First moment ..... = 3.18325E-03
Second moment ..... = 1.47008E-03
Hmo ..... = .427
Tp ..... = 5.753
```



Test Identification ..... : b113-02

Reflection Coefficients for Data file ..... : b113-02.wrl

Water Depth (Feet) ..... = 4.00  
Data Channels used to compute Coefficients ..... = 1 2 3  
Distances between channels in feet ..... = 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 3.72099E-01  
Maximum smoothed value ..... = 7.81201E+00  
First moment ..... = 9.13606E-02  
Second moment ..... = 3.14643E-02  
I1no ..... = 2.443  
Tp ..... = 5.626

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 2.89928E-02  
Maximum smoothed value ..... = 1.09703E+00  
First moment ..... = 1.20039E-02  
Second moment ..... = 5.77232E-03  
I1no ..... = .680  
Reflection coefficient ..... = .278 <-----

\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 1.53547E-01  
Maximum smoothed value ..... = 2.75411E+00  
First moment ..... = 4.79208E-02  
Second moment ..... = 1.98946E-02  
I1no ..... = 1.567  
Tp ..... = 2.860

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.05690E-02  
Maximum smoothed value ..... = 2.49835E-01  
First moment ..... = 5.95648E-03  
Second moment ..... = 3.57392E-03  
I1no ..... = .411  
Reflection coefficient ..... = .262 <-----

\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 2.64999E-01  
Maximum smoothed value ..... = 6.99360E+00  
First moment ..... = 4.62107E-02  
Second moment ..... = 9.88600E-03  
I1no ..... = 2.059  
Tp ..... = 5.626

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 4.78182E-03  
Maximum smoothed value ..... = 1.20543E-01  
First moment ..... = 1.13713E-03  
Second moment ..... = 3.05431E-04  
I1no ..... = .277  
Reflection coefficient ..... = .134 <-----

Test Identification ..... : b113-02

Reflection Coefficients for Data file ..... : b113-02.wrl

Water Depth (Feet) ..... = 4.00  
Data Channels used to compute Coefficients ..... = 5 6 7  
Distances between channels in feet ..... = 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 2.08277E-01  
Maximum smoothed value ..... = 3.85846E+00  
First moment ..... = 5.51607E-02  
Second moment ..... = 1.79764E-02  
I1no ..... = 1.825  
Tp ..... = 2.860

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 1.85830E-02  
Maximum smoothed value ..... = 6.49470E-01  
First moment ..... = 7.29812E-03  
Second moment ..... = 3.13833E-03  
I1no ..... = .545  
Reflection coefficient ..... = .299 <-----

\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 1.11748E-01  
Maximum smoothed value ..... = 3.46515E+00  
First moment ..... = 2.48661E-02  
Second moment ..... = 7.09732E-03  
I1no ..... = 1.337  
Tp ..... = 2.860

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 3.47418E-03  
Maximum smoothed value ..... = 4.41006E-02  
First moment ..... = 1.39792E-03  
Second moment ..... = 6.55747E-04  
I1no ..... = .236  
Reflection coefficient ..... = .176 <-----

\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 1.81495E-01  
Maximum smoothed value ..... = 4.68810E+00  
First moment ..... = 4.30382E-02  
Second moment ..... = 1.14811E-02  
I1no ..... = 1.704  
Tp ..... = 2.860

\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy ..... = 3.51087E-03  
Maximum smoothed value ..... = 8.05515E-02  
First moment ..... = 6.64535E-04  
Second moment ..... = 1.53404E-04  
I1no ..... = .237  
Reflection coefficient ..... = .139 <-----

Test Identification ..... : b113-02

Run Identification ..... : b113-02

New Data File ..... : b113-02.wrl  
Date of test ..... : 21-FEB-1992 10:56:35

\*\*\* Wave Gauge 4 Summary \*\*\*  
\*\*\* Total Wave Energy \*\*\*  
Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 3.22993E-01  
Maximum smoothed value ..... = 4.69843E+00  
First moment ..... = 1.15050E-01  
Second moment ..... = 5.67603E-02  
I1no ..... = 2.273  
Tp ..... = 5.626

\*\*\* Current Meter Summary Seaward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 2.23583E+00  
Maximum smoothed value ..... = 5.61639E+01  
First moment ..... = 5.78182E-01  
Second moment ..... = 1.89810E-01  
I1no ..... = 5.981  
Tp ..... = 5.626

\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 2.58978E-02  
Maximum smoothed value ..... = 3.82079E-01  
First moment ..... = 7.27599E-03  
Second moment ..... = 3.17417E-03  
I1no ..... = .644  
Tp ..... = 5.933

\*\*\* Current Meter Summary Leeward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 2.20201E+00  
Maximum smoothed value ..... = 4.8075E+01  
First moment ..... = 6.20077E-01  
Second moment ..... = 2.21861E-01  
I1no ..... = 5.936  
Tp ..... = 5.936

\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in boresmooth ..... = 13  
Total smoothed energy ..... = 1.69743E-02  
Maximum smoothed value ..... = 2.18947E-01  
First moment ..... = 5.39119E-03  
Second moment ..... = 2.57542E-03  
I1no ..... = .521  
Tp ..... = 2.860

Test Identification : b113-03

Reflection Coefficients for Data file : b113-03.wrl

Water Depth (Feet) : 4.00  
Data Channels used to compute Coefficients : 1 2 3  
Distances between channels in feet : 7.00 2.50

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy ====  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.22507E-01  
Maximum smoothed value : 1.41071E+00  
First moment : 2.17599E-02  
Second moment : 5.63703E-03  
Hlmo : 1.400  
Tp : 5.953

==== Reflected wave energy ====  
Total smoothed energy : 3.06407E-03  
Maximum smoothed value : 5.62232E-02  
First moment : 9.80241E-04  
Second moment : 3.76748E-04  
Hlmo : .221  
Tp : .158

==== Smoothed spectral densities for DL = 2.5 Ft. =====  
==== Incident wave energy ====  
Number of points in boxcar smooth : 13  
Total smoothed energy : 5.56033E-02  
Maximum smoothed value : 2.52969E-01  
First moment : 1.26577E-02  
Second moment : 4.59042E-03  
Hlmo : .944  
Tp : 4.231

==== Reflected wave energy ====  
Total smoothed energy : 2.56073E-03  
Maximum smoothed value : 2.68922E-02  
First moment : 1.24308E-03  
Second moment : 7.39252E-04  
Hlmo : .202  
Tp : .214

==== Smoothed spectral densities for DL = 9.5 Ft. =====  
==== Incident wave energy ====  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.13526E-01  
Maximum smoothed value : 1.42264E+00  
First moment : 1.94360E-02  
Second moment : 4.19887E-03  
Hlmo : 1.348  
Tp : 5.953

==== Reflected wave energy ====  
Total smoothed energy : 2.38269E-03  
Maximum smoothed value : 2.30782E-02  
First moment : 6.10515E-04  
Second moment : 1.82642E-04  
Hlmo : .195  
Tp : .145

Test Identification : b113-03

Reflection Coefficients for Data file : b113-03.wrl

Water Depth (Feet) : 4.00  
Data Channels used to compute Coefficients : 5 6 7  
Distances between channels in feet : 7.00 3.00

==== Smoothed spectral densities for DL = 7.0 Ft. =====  
==== Incident wave energy ====  
Number of points in boxcar smooth : 13  
Total smoothed energy : 9.76023E-02  
Maximum smoothed value : 8.28194E-01  
First moment : 2.03443E-02  
Second moment : 5.70714E-03  
Hlmo : 1.250  
Tp : 5.953

==== Reflected wave energy ====  
Total smoothed energy : 2.91152E-03  
Maximum smoothed value : 7.20033E-02  
First moment : 9.41318E-04  
Second moment : 3.62670E-04  
Hlmo : .216  
Tp : .173

==== Smoothed spectral densities for DL = 3.0 Ft. =====  
==== Incident wave energy ====  
Number of points in boxcar smooth : 13  
Total smoothed energy : 6.26380E-02  
Maximum smoothed value : 3.37033E-01  
First moment : 1.26889E-02  
Second moment : 3.90533E-03  
Hlmo : 1.001  
Tp : 5.120

==== Reflected wave energy ====  
Total smoothed energy : 1.91691E-03  
Maximum smoothed value : 1.65343E-02  
First moment : 8.10770E-04  
Second moment : 4.32481E-04  
Hlmo : .175  
Tp : .175

==== Smoothed spectral densities for DL = 10.0 Ft. =====  
==== Incident wave energy ====  
Number of points in boxcar smooth : 13  
Total smoothed energy : 8.76833E-02  
Maximum smoothed value : 8.47083E-01  
First moment : 1.71136E-02  
Second moment : 4.06916E-03  
Hlmo : 1.184  
Tp : 5.953

==== Reflected wave energy ====  
Total smoothed energy : 2.08710E-03  
Maximum smoothed value : 4.25338E-02  
First moment : 5.37385E-04  
Second moment : 1.61153E-04  
Hlmo : .183  
Tp : .154

Test Identification : b113-03

Run Identification : b113-03

Raw Data File : b113-03.wrl  
Date of test : 21-FEB-1992 11:31:57

==== Wave Gauge 4 Summary =====

==== Total Wave Energy ====  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.22962E-01  
Maximum smoothed value : 1.14511E+00  
First moment : 3.57804E-02  
Second moment : 1.39987E-02  
Hlmo : 1.403  
Tp : 5.953

==== Current Meter Summary Seaward Gauge =====

==== Horizontal Current Energy Channel 8 ====  
Number of points in boxcar smooth : 13  
Total smoothed energy : 9.59663E-01  
Maximum smoothed value : 1.30963E+01  
First moment : 2.15599E-01  
Second moment : 6.06302E-02  
Hlmo : 3.919  
Tp : 5.953

==== Vertical Current Energy Channel 9 ====  
Number of points in boxcar smooth : 13  
Total smoothed energy : 9.37376E-03  
Maximum smoothed value : 5.53117E-02  
First moment : 2.47677E-03  
Second moment : 1.10337E-03  
Hlmo : .387  
Tp : 6.024

==== Current Meter Summary Leeward Gauge =====

==== Horizontal Current Energy Channel 10 ====  
Number of points in boxcar smooth : 13  
Total smoothed energy : 1.02481E+00  
Maximum smoothed value : 1.25111E+01  
First moment : 2.34035E-01  
Second moment : 7.04596E-02  
Hlmo : 4.049  
Tp : 5.953

==== Vertical Current Energy Channel 11 ====  
Number of points in boxcar smooth : 13  
Total smoothed energy : 9.98228E-03  
Maximum smoothed value : 5.84117E-02  
First moment : 2.59527E-03  
Second moment : 1.19438E-03  
Hlmo : .400  
Tp : 5.953

Test Identification : b113-04

Reflection Coefficients for Data file : b113-04.wrl

Water Depth (Feet) : 4.00  
Data Channels used to compute Coefficients : 1 2 3  
Distances between channels in feet : 7.00 2.50

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresc smooth : 13  
Total smoothed energy : 2.14637E-01  
Maximum smoothed value : 2.34850E+00  
First moment : 3.98799E-02  
Second moment : 1.09311E-02  
Hlmo : 1.853  
Tp : 6.095  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 9.15413E-03  
Maximum smoothed value : 1.50734E-01  
First moment : 3.04070E-03  
Second moment : 1.18302E-03  
Hlmo : .383  
Tp : .207  
\*\*\* Smoothed spectral densities for DL = 2.5 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresc smooth : 13  
Total smoothed energy : 9.40343E-02  
Maximum smoothed value : 5.67924E-01  
First moment : 2.36663E-02  
Second moment : 9.11205E-03  
Hlmo : 1.227  
Tp : 2.860  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 6.59406E-03  
Maximum smoothed value : 3.5372E-02  
First moment : 2.95999E-03  
Second moment : 1.69319E-03  
Hlmo : .325  
Tp : .265  
\*\*\* Smoothed spectral densities for DL = 9.5 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresc smooth : 13  
Total smoothed energy : 1.89493E-01  
Maximum smoothed value : 2.30835E+00  
First moment : 3.20110E-02  
Second moment : 6.89004E-03  
Hlmo : 1.742  
Tp : 6.095  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 6.16572E-03  
Maximum smoothed value : 1.03675E-01  
First moment : 1.61058E-03  
Second moment : 4.96913E-04  
Hlmo : .314  
Tp : .180  
\*\*\* Reflection coefficient \*\*\*

Test Identification : b113-04

Reflection Coefficients for Data file : b113-04.wrl

Water Depth (Feet) : 4.00  
Data Channels used to compute Coefficients : 5 6 7  
Distances between channels in feet : 7.00 3.00

\*\*\* Smoothed spectral densities for DL = 7.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresc smooth : 13  
Total smoothed energy : 1.53564E-01  
Maximum smoothed value : 1.14402E+00  
First moment : 3.42704E-02  
Second moment : 1.07791E-02  
Hlmo : 1.567  
Tp : 6.095  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 6.59499E-03  
Maximum smoothed value : 1.21272E-01  
First moment : 2.23283E-03  
Second moment : 8.77485E-04  
Hlmo : .325  
Tp : .207  
\*\*\* Smoothed spectral densities for DL = 3.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresc smooth : 13  
Total smoothed energy : 9.97374E-02  
Maximum smoothed value : 6.32508E-01  
First moment : 2.32145E-02  
Second moment : 8.13102E-03  
Hlmo : 1.263  
Tp : 2.829  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 4.98216E-03  
Maximum smoothed value : 8.47948E-02  
First moment : 2.36232E-03  
Second moment : 1.33298E-03  
Hlmo : .282  
Tp : .224  
\*\*\* Smoothed spectral densities for DL = 10.0 Ft. \*\*\*  
\*\*\* Incident wave energy \*\*\*  
Number of points in boresc smooth : 13  
Total smoothed energy : 1.32570E-01  
Maximum smoothed value : 1.16416E+00  
First moment : 2.61603E-02  
Second moment : 6.36200E-03  
Hlmo : 1.456  
Tp : 6.095  
\*\*\* Reflected wave energy \*\*\*  
Total smoothed energy : 4.87197E-03  
Maximum smoothed value : 1.49031E-01  
First moment : 1.29737E-03  
Second moment : 4.03263E-04  
Hlmo : .279  
Tp : .192  
\*\*\* Reflection coefficient \*\*\*

Test Identification : b113-04

Run Identification : b113-04

Raw Data File : b113-04.wrl  
Date of test : 21 FEB-1992 12:19:43

\*\*\* Wave Gauge 4 Summary \*\*\*  
\*\*\* Total Wave Energy \*\*\*  
Number of points in boresc smooth : 13  
Total smoothed energy : 1.99109E-01  
Maximum smoothed value : 1.76641E+00  
First moment : 5.84489E-02  
Second moment : 2.42371E-02  
Hlmo : 1.785  
Tp : 6.095

\*\*\* Current Meter Summary Seaward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 8 \*\*\*  
Number of points in boresc smooth : 13  
Total smoothed energy : 1.60846E+00  
Maximum smoothed value : 1.96576E+01  
First moment : 3.53268E-01  
Second moment : 1.03000E-01  
Hlmo : .5073  
Tp : 6.095  
\*\*\* Vertical Current Energy Channel 9 \*\*\*  
Number of points in boresc smooth : 13  
Total smoothed energy : 2.24606E-02  
Maximum smoothed value : 1.11376E-01  
First moment : 5.71914E-03  
Second moment : 2.61594E-03  
Hlmo : .599  
Tp : 6.095

\*\*\* Current Meter Summary Leeward Gauge \*\*\*  
\*\*\* Horizontal Current Energy Channel 10 \*\*\*  
Number of points in boresc smooth : 13  
Total smoothed energy : 1.67840E+00  
Maximum smoothed value : 1.90316E+01  
First moment : 3.48580E-01  
Second moment : 1.19806E-01  
Hlmo : 5.182  
Tp : 6.095  
\*\*\* Vertical Current Energy Channel 11 \*\*\*  
Number of points in boresc smooth : 13  
Total smoothed energy : 1.83074E-02  
Maximum smoothed value : 6.5663E-02  
First moment : 4.75254E-03  
Second moment : 2.27128E-03  
Hlmo : .541  
Tp : 6.169